



**SECOND QUARTER PROGRESS REPORT
L.E. CARPENTER SITE
WHARTON, NEW JERSEY**

VOLUME 1 OF 2

August 1996

Work Order No.: 06720-018-003-0002-00

Prepared on behalf of

L.E. CARPENTER AND COMPANY

For the

**NEW JERSEY DEPARTMENT OF ENVIRONMENTAL
PROTECTION**

Prepared by

**ROY F. WESTON, INC.
Raritan Plaza III
Suite 2B
Raritan Center
Edison, New Jersey 08837**

346380





**SECOND QUARTER PROGRESS REPORT
L.E. CARPENTER SITE
WHARTON, NEW JERSEY
TABLE OF CONTENTS**

<u>Section</u>	<u>Title</u>	<u>Page</u>
1.0	INTRODUCTION AND SCOPE OF WORK	1-1
1.1	Investigative Activities - Soils	1-1
1.2	Investigative Activities - Groundwater	1-2
1.3	Product Recovery	1-2
2.0	SOIL INVESTIGATION	2-1
2.1	Inorganic Hot Spots	2-1
2.1.1	Historical Site Use	2-1
2.1.2	Hot Spot B	2-2
2.1.3	Hot Spot C	2-4
2.1.4	Evaluation of Lead in Soils	2-5
2.2	Organic Hot Spot Delineation	2-6
2.2.1	Hot Spot 1	2-7
2.2.2	Hot Spot 4	2-9
2.2.3	MW-19 Soil Delineation	2-10
2.3	Deviations from the Proposed Scope of Work	2-10
3.0	GROUNDWATER INVESTIGATION	3-1
3.1	Lead in Groundwater	3-1
3.2	MW-19 Delineation	3-2
3.3	Monitoring Well Installation and Sampling	3-3
3.4	Percolation Testing	3-5
3.5	Water Level and Product Thickness Measurements	3-6
3.6	Product Delineation	3-7
3.7	Quarterly Groundwater Sampling	3-7
3.8	Deviations from the Proposed Scope of Work	3-8



**SECOND QUARTER PROGRESS REPORT
L.E. CARPENTER SITE
WHARTON, NEW JERSEY
TABLE OF CONTENTS
(CONTINUED)**

<u>Section</u>	<u>Title</u>
4.0	CONCLUSIONS AND RECOMMENDATIONS4-1
4.1	Soils4-1
4.1.1	Hot Spots B and C4-1
4.1.2	Hot Spot 14-1
4.1.3	Hot Spot 44-2
4.1.4	MW-19 Area4-2
4.2	Groundwater4-2
4.2.1	MW-19 Area4-3
4.2.2	Quarterly Groundwater Monitoring4-4
4.2.3	Product Recovery4-4



**SECOND QUARTER PROGRESS REPORT
L.E. CARPENTER SITE
WHARTON, NEW JERSEY
TABLE OF CONTENTS
(CONTINUED)**

LIST OF APPENDICES

- Appendix A - Figures
- Appendix B - Tables
- Appendix C - Hot Spot Soil Delineation Data Package Summary Pages
- Appendix D - Soil Boring Logs
- Appendix E - Monitoring Well Construction Details
- Appendix F - Groundwater Elevation/Product Thickness Data
- Appendix G - Monitoring Well Sampling Data Forms
- Appendix H - Groundwater Data Package Summary Pages

SECTION 1.0

INTRODUCTION AND SCOPE OF WORK

L.E. Carpenter and Company is pleased to submit this Second Quarter Progress Report for the former manufacturing facility located at 170 North Main Street, Borough of Wharton, Morris County, New Jersey. This report provides a summary of activities for the Second Quarter 1996, including routine groundwater monitoring and additional remedial design data collection activities. The remedial design activities include hot spot delineation efforts. The quarterly monitoring event was performed at the site to comply with Paragraph 35 of the 1986 Administrative Consent Order between L.E. Carpenter and Company and the New Jersey Department of Environmental Protection (NJDEP). The hot spot delineation activities were performed in accordance with the NJDEP-approved scope of work documents dated 27 September 1995 (Hot Spot 4 Delineation); 18 October 1995 (Contaminant Delineation Plan at MW-19); 22 February 1996 (Hot Spot 1 Delineation Plan); and "Attachment #1" of the letter report entitled Soil Data Compilation, L.E. Carpenter and Company, Wharton, New Jersey and dated 21 December 1995. All field activities were performed in compliance with NJDEP's Technical Requirements for Site Remediation (Technical Requirements, N.J.A.C. 7:26E et seq.)

In addition to the soil and groundwater sampling performed during this quarter, Roy F. Weston, Inc. (WESTON®), on behalf of L.E. Carpenter and Company, installed and sampled two groundwater monitoring wells and performed six percolation tests. The well installations and percolation tests were performed to comply with the NJDEP-approved scope of work dated 28 July 1995. Data from these monitoring wells and percolation tests will aid in the design of the appropriate remedial action for the site.

Sections 2.0 and 3.0 present a summary of all activities performed, samples collected, and analytical results obtained for soil and groundwater, respectively, during the investigative effort performed during the second quarter. Section 4.0 presents conclusions based on recent findings that supplement the existing physical and analytical database. Figures are provided in Appendix A and tables are provided in Appendix B.

1.1 INVESTIGATIVE ACTIVITIES - SOILS

Investigative efforts were performed to determine the nature of chemical constituents present in site soils, and to delineate the horizontal and vertical extent of concentrations in excess of the criteria presented in the Record of Decision (ROD) or the NJDEP's Soil Cleanup Criteria. Soil investigative activities completed during this quarter were intended to supplement the data previously collected in the vicinity of Hot Spot B, Hot Spot C, Hot Spot 1, Hot Spot 4, and MW-19. The resultant data supplements the existing environmental database.

1.2 INVESTIGATIVE ACTIVITIES - GROUNDWATER

To further our understanding of groundwater conditions at the site, WESTON collected quarterly groundwater samples from seven wells, measured water levels and the product thickness in monitoring wells and piezometers, installed and sampled two groundwater monitoring wells, collected two groundwater samples for lead analysis, and performed percolation tests. The findings of these investigative activities supplement the existing database, and provide additional data for evaluating the most efficient and cost-effective method for remediation of the remaining product and groundwater plume.

1.3 PRODUCT RECOVERY

The enhanced "passive" product recovery system at the site was removed from service throughout a portion of the second quarter due to the lack of product in the recovery points, and in order to accommodate field activities associated with the soil and groundwater investigations including the upcoming aquifer testing. The absence of product in many of the monitoring points can be attributed to successful product removal activities conducted prior to and during this quarter. In addition, natural conditions, (i.e., water table conditions and stratigraphic deposits at the water table and within the capillary fringe), may have reduced the volume of apparent product in many of the monitoring points, specifically the "B" (WP-B--) well points. During the system's operation, skimmer pumps were present in wells that historically contained an appreciable volume of floating product (MW-3, MW-10, MW-11S, and WP-B3).

During the second quarter, product was removed from several wells and well points by manual bailing. The majority of the product that was recovered via manual bailing was from MW-11S, WP-A6, and WP-A8. All recovered product was containerized in the above-ground storage tank located adjacent to the recovery system shed in the middle of the site or in secure 55-gallon drums. Manual bailing was performed on numerous days throughout the second quarter. The total volume of product that was manually bailed during this reporting period was approximately 28 gallons. This was in addition to the estimated 20 gallons of product which was collected by the "passive" recovery system during its activity this quarter. Therefore, a total volume of approximately 48 gallons of product was recovered during the quarter. The total cumulative volume of recovered product for 1996 is approximately 110 gallons.

SECTION 2.0

SOIL INVESTIGATION

This section following summarizes the soil investigation activities performed during the Second Quarter 1996. A discussion of the following items will be included in the description of actions taken at each area investigated:

- A summary of previously performed activities.
- A discussion of activities conducted during the Second Quarter.
- The results of the activities performed.

All referenced figures and tables are provided in Appendix A and B, respectively. The summary pages from the analytical data packages for the soil and groundwater samples are provided as Appendix C and H, respectively. Copies of the full analytical data packages will be provided upon conclusion of the project as part of the Remedial Action Report.

2.1 INORGANIC HOT SPOTS

During Second Quarter 1996 activities, inorganic Hot Spots B and C were further investigated. The following subsection provides relevant information regarding the historical presence of ore deposits on-site and their impact on natural soil conditions.

2.1.1 Historical Site Use

The Dover Magnetite District is one of the oldest mining districts in the country, and has been intermittently active since the early part of the 18th century. Most of this activity took place prior to 1940. The Mount Hope Mine, which was the last operating mine in the district, ceased operations in the mid 1980's. Ores found in the vicinity of Wharton, New Jersey make up what is known as the Wharton ore belt. The Washington Forge Mine was located directly on what is now the L.E. Carpenter property. The West Mount Pleasant Mine was also located on what is also part of the L.E. Carpenter property, approximately 170 feet northeast of the Washington Forge Mine.

The Mount Pleasant iron ore deposit consists predominantly of the metallic mineral magnetite, which is a magnetic iron oxide (FeO). Sulfide minerals, such as pyrite, chalcopyrite, and pyrrhotite are also reported ores from the Wharton ore belt. These minerals are important sources of arsenic, copper, lead, and zinc. Although abundant chemical analyses of the ores exist in the literature, all of the analyses of ores in the vicinity of the L.E. Carpenter property were performed prior to 1908. Due to limitations of the analytical technology of the time, these

analyses do not include constituents of the ores such as lead, chromium, nickel, zinc, and arsenic.

All of the ore that was shipped from the district prior to 1983 was hand-cobbed (or hand-picked), and ore that was shipped between 1893 and 1916 was in part hand-cobbed and in part concentrated on dry magnetic separators. In 1903, a magnetic concentrator was installed at the Orchard Mine, directly across the Rockaway River from the Washington Forge and West Mount Pleasant Mines (and the present location of the L.E. Carpenter property). Since this was a magnetic separation process, non-magnetic minerals (pyrite, chalcopyrite, and pyrrhotite) containing lead, chromium, nickel, zinc, and arsenic would have been enriched in the tailings.

Two inorganic hot spots were investigated during field activities conducted this quarter. These hot spots were identified during the remedial investigation and designated as Hot Spots B and C. Hot Spot B is located adjacent to the western loading dock of former Building 14. Hot Spot C is located adjacent to the southern corner of former Building 14. The following subsections present summaries of activities associated with each hot spot. Figures 2-1 through 2-5 in Appendix A present the lead soil sampling locations and corresponding analytical results.

2.1.2 Hot Spot B

Prior to conducting the Second Quarter 1996 investigation, Hot Spot B was excavated to a size of approximately 16 feet by 20 feet by 2 feet deep on 28 November 1994. One bottom and two sidewall post-excavation samples were collected. The analytical results indicated that lead was present at concentrations in excess of the site remedial goal for lead of 600 milligrams per kilogram (mg/kg). On 7 December 1994, additional excavation of Hot Spot B was performed. The approximate size of the expanded excavation was 28 feet by 28 feet by 4 feet deep. Four sidewall samples were collected from the expanded excavation, and an additional bottom sample was collected. The analytical results for the northwest and southwest sidewalls, and the bottom of the excavation indicated that lead was either detected at concentrations below the remedial goal, or not detected, and no additional excavation was required in those directions.

On 15 December 1994, the northeast and southeast sides of the excavation were extended approximately 5 feet, to a total excavation size of 33 feet by 33 feet by 4 feet deep. Two sidewall samples and an additional bottom post-excavation sample were collected from the expanded excavation. Analytical results indicated that the bottom sample was in compliance with the site remedial goals; but the sidewall samples indicated elevated lead concentrations as compared to the remedial objectives. On 20 December 1994, the northeast and southeast sidewalls of the Hot Spot B excavation were extended, to a total excavation size of approximately 41 feet by 38 feet by 4 feet deep. Three sidewall samples were collected from the expanded excavation sides. The analytical results of these samples also indicated the presence of lead at concentrations above the remedial goal. On 29 December 1994, additional excavation activities were conducted at Hot Spot B. At the conclusion of this excavation



activity, three additional sidewall samples were collected. The analytical results for these samples indicated concentrations in excess of the site remedial goal of 600 mg/kg for lead. Table 2-3 of the quarterly report dated April 1995 presents a summary of all of the analytical results for the samples collected from this hot spot. The existing analytical lead data are summarized on Figures 2-1 through 2-5 in Appendix A. *

On 17 January 1995, WESTON contacted the NJDEP case manager to discuss the continued excavation of soils which exceed the site remedial goal. As indicated by the volume of soil excavated and review of the post-excavation data, the concentrations of lead in the samples are not indicative of hot spots caused by isolated releases of materials. Lead concentrations are believed to be an artifact of the fill historically deposited at the site.

On 21 December 1995, WESTON submitted a detailed letter report entitled Soil Data Compilation, L.E. Carpenter and Company, Wharton, New Jersey, which provides an evaluation of the nature and extent of lead present at the site. To confirm the conclusion that the presence of lead at the site is attributable to the presence of the fill material, and not related to practices conducted by L.E. Carpenter and Company, NJDEP required WESTON to prepare a work plan, (Attachment A of the above-referenced letter report dated 21 December 1995), for additional lead sampling.

In accordance with the scope of work presented in Attachment A of the 21 December 1995 letter report, WESTON collected 37 soil samples for lead analysis (including two field duplicate samples) from 12 soil borings in the vicinity of Hot Spot B. All samples, including the required quality assurance/quality control (QA/QC) samples (field blanks and duplicates) were collected in compliance with protocols presented in NJDEP's Field Sampling Procedures Manual dated May 1992, and the relevant Technical Requirements (N.J.A.C. 7:26E, et. seq.). Soil samples were collected using the split-spoon sampling method. Borehole advancement was performed using either the air rotary method, or if the borehole remained open, by driving continuous split-spoon samplers. A summary of the samples collected that are associated with Hot Spot B are presented in Table 2-1 in Appendix B. The sampling locations and analytical results are presented on Figure 2-2 in Appendix A. Boring logs are presented in Appendix D.

The analytical results acquired during the Second Quarter 1996 investigative effort indicate the presence of lead in every sample collected at a range of concentrations between 8.1 milligrams per kilogram (mg/kg) in sample SB-8-B (boring location SB-8, depth 2.0 to 2.5 feet below grade) and 5,040 mg/kg in sample SB-15C (location boring SB-15, depth 4.0 to 4.5 feet below grade). The site remedial goal of 600 mg/kg was exceeded in 21 samples of the 37 samples collected (which includes the duplicate samples) at various depths between grade and 4.5 feet below grade. Table 2-2 in Appendix B presents the sample depth, material sampled, and the analytical results of the samples collected. The samples in excess of the remedial goal are highlighted. *

2.1.3 Hot Spot C

Prior to performing the Second Quarter 1996 investigation, Hot Spot C was excavated to an approximate size of 24 feet by 24 feet by 4 feet deep on 1 December 1994. Post-excavation sidewall and bottom samples were collected for lead and antimony analysis. Results of the sidewall samples indicated lead concentrations in excess of site-specific remedial goals; therefore, on 12 December 1994, the Hot Spot C excavation was expanded to approximately 35 feet by 35 feet by 4 feet deep. An additional five sidewall samples (plus one duplicate sample) were collected for lead analysis on 13 December 1994. The analytical results indicated that the samples collected from the southern sidewalls met the remedial goals for lead. Based on the analytical results, the northwest and northeast sidewalls were re-excavated on 20 December 1994. Two post-excavation samples were collected from the expanded excavation's sidewalls. The analytical results for these samples exceeded the site-specific remedial goals for the site. Based on these results, Hot Spot C was excavated to its present dimensions on 29 December 1994 and two additional sidewall samples were collected. The analytical results for these additional samples did not indicate compliance with the site remedial goal of 600 mg/kg for lead.

On 17 January 1995, WESTON contacted the NJDEP case manager to discuss the continued elevated lead concentrations in the post-excavation samples. As indicated by the volume of soil excavated and a review of the post-excavation data, the concentrations of lead in the samples are not indicative of hot spots caused by isolated releases of materials and are believed to be an artifact of the fill historically deposited at the site. Table 2-4 of the quarterly report dated April 1995 presents a summary of all of the analytical results for the samples collected from this hot spot. The existing analytical lead data are summarized on Figures 2-1 through 2-5 in Appendix A.

On 21 December 1995, WESTON submitted a detailed report entitled Soil Data Compilation, L.E. Carpenter and Company, Wharton, New Jersey, which provided an evaluation of the nature and extent of lead present at the site. To confirm the conclusion that the presence of lead at the site is attributable to the presence of historical fill, and not related to practices conducted by L.E. Carpenter and Company, NJDEP required WESTON to prepare a work plan (Attachment A of the 21 December letter report) for additional lead sampling.

WESTON collected 37 soil samples for lead analysis (including two field duplicate samples) in accordance with the scope of work presented in "Attachment A" of the 21 December letter report, from 12 soil borings in the vicinity of Hot Spot C. All samples, including the required QA/QC samples (field blanks and duplicates), were collected in compliance with protocols presented in NJDEP's Field Sampling Procedures Manual dated May 1992, and the relevant Technical Requirements (N.J.A.C. 7.26E, et. seq.). Soil samples were collected using the split-spoon sampling method. Borehole advancement was performed using either the air rotary method, or if the borehole remained open, by driving continuous split-spoon samplers. A summary of the samples collected that are associated with Hot Spot C are presented in Table 2-3



in Appendix B. Figure 2-3 in Appendix A presents the sampling locations and analytical results on an area-specific map. Boring logs are presented in Appendix D.

The analytical results acquired during the Second Quarter 1996 investigative effort for Hot Spot C indicate the presence of lead in every sample collected at a range of concentrations between 8.6 mg/kg in sample C-1-C (location C-1, depth 4.0 to 4.5 feet below grade) and 2,630 mg/kg in sample C-8-A (location C-8, depth 0.0 to 0.5 feet below grade). In sixteen samples collected at various depths between grade and 4.5 feet below grade, the site remedial goal of 600 mg/kg for lead in soil was exceeded. Table 2-4 in Appendix B presents the sample depth, material sampled, and the analytical results of the samples collected. The samples with detectable concentrations of lead in excess of the remedial goal are highlighted.

2.1.4 Evaluation of Lead in Soils

At the request of NJDEP, WESTON collected additional soil samples in order to confirm whether or not the lead concentrations detected in soils were attributable to surface spills and past L.E. Carpenter operations (i.e., hot spots), or the pervasive fill material present at the site. The focus of this evaluation was to:

- Evaluate the spatial distribution of lead relative to the previously identified hot spots (i.e., Hot Spot B and C).
- Delineate the boundary of soil concentrations in excess of 600 mg/kg.
- Confirm that lead concentration in site's soils was not impacting groundwater.

As part of the Second Quarter 1996 delineation activities, the existing soil analytical database was supplemented by the collection of soil samples for lead analysis from 24 soil borings. These locations were selected so that the resultant analytical data would characterize the distribution of lead within and surrounding the previously identified "Hot Spots" B and C in an attempt to delineate the extent of lead concentrations which are greater than 600 mg/kg.

Ninety soil samples (51 shallow soil samples, 39 deep fill samples) were collected from areas associated with Hot Spots B and C. The concentrations of lead in shallow fill samples ranged between 77 mg/kg and 2,630 mg/kg. The deep fill samples had lead concentrations that ranged from 8.1 mg/kg to 2,830 mg/kg.

The data indicates that lead concentrations in excess of the remedial goal of 600 mg/kg are prevalent throughout the fill material at the site. Neither a horizontal or vertical gradient exists. Of the 24 borings performed, 10 borings (SB-1, SB-3, SB-6, SB-8, SB-15, C-2, C-3, C-6, C-8, and C-12) indicated lead concentrations in samples collected at depth that were higher than concentrations detected in the surface sample collected from the same boring. The highest lead

concentration was detected in sample SB-15-C, at a depth of 4.0 feet to 4.5 feet below grade. This concentration was approximately twice that detected in sample SB-15-A, collected from the 0.6 foot to 1.0 foot below grade interval from the same boring; and was more than three times the concentration detected in the 2.5 feet to 3.0 feet below grade interval sample (SB-15-C) collected from that boring.

Review of the analytical data indicates that no horizontal or vertical gradient or trend can be established regarding the distribution of lead in soils. Further, the boundary of the extent of lead concentrations which exceed 600 mg/kg cannot be determined. The soil quality of the fill, which is known to be high in metals, suggest that lead concentrations are naturally elevated. The analytical data presented on Figures 2-2 and 2-3 for Hot Spots B and C; respectively, depict the random distribution of lead in site soils.

Two groundwater samples were also collected during Second Quarter 1996 from well points WP-A9 and WP-A7, and analyzed for total and dissolved lead (see Section 3.1). Both well points WP-A9 and WP-A7, are in proximity to Hot Spots B and C; respectively. Results indicated that lead was present at detectable concentrations, but below the GWQC referenced in the ROD of 10 micrograms per liter ($\mu\text{g/L}$). It can be concluded from these analytical results that the presence of lead at concentrations in excess of 600 mg/kg in soil is not impacting groundwater quality in the shallow aquifer beneath the site.

The analytical data do not suggest that "hot spots" of elevated lead concentrations exist at the former L.E. Carpenter site. The random distribution of lead in soils is indicative of the quality of fill which is present and pervasive on-site. Remedial activities performed during 1994 removed an excess of 275 cubic yards of contaminated soil from Hot Spots B and C; compared to the 214 cubic yards originally planned. These remedial activities, which addressed those soils which may have been impacted as a result of their close proximity to loading and unloading operations at Building 14, combined with the engineering controls planned for the site (e.g., deed of environmental restriction and soil cover) will be protective of human health and the environment. As such, WESTON recommends that no further investigative or removal actions be taken in regards to soils impacted by lead on the site.

2.2 ORGANIC HOT SPOTS

Two organic hot spots were investigated during the field activities conducted during Second Quarter 1996. These hot spots were designated as Hot Spot 1 and Hot Spot 4. Hot Spot 1 is associated with former underground storage tanks E-3 and E-4. The compound of concern for Hot Spot 1 is bis(2-ethylhexyl)phthalate (DEHP). Additional soil investigative activities were conducted in the vicinity of Hot Spot 1 to determine the extent, if any, of volatile organic compounds (VOCs) associated with MW-19 in this portion of the site's soils. (The delineation of VOCs in soil associated with MW-19 is included in the following subsection presenting the data for Hot Spot 1). Hot Spot 1 and MW-19 are located to the west of Building 9. Hot Spot

4 is associated with a removed floor drain located within former Building 14. The chemical compound of concern associated with this hot spot is DEHP.

2.2.1 Hot Spot 1

Previous excavations were initiated at Hot Spot 1 on 30 November 1994. The approximate limit of excavation was 20 feet by 35 feet by 9 feet deep. A concrete pad, believed to be associated with the former tanks, was encountered in the bottom of the excavation. Due to the presence of the pad, a post-excavation bottom sample was not collected; however, four sidewall samples (plus one duplicate sample) were collected from the bottoms of the sidewalls.

The analytical results indicated that the samples collected from the southern and eastern sides of the excavation did not meet the remedial goals; therefore, on 6 December 1994, the excavation was expanded to the south and east. The south sidewall was extended to within 6 feet of Building 9, and the east sidewall was extended to within 5 feet of Monitoring Well MW-19. The depth of the excavation was limited to approximately 9 feet below grade due to the proximity of Building 9 and concern that increasing the depth of the excavation would undermine the building's foundation. α

Three sidewall samples and one bottom sample were collected from the expanded excavation for analysis for DEHP on 6 December 1994. Analytical results indicated that the western extent of contamination had been delineated and remediated, but concentrations of DEHP were above the site-specific remedial goal on the eastern sidewall.

On 12 December 1994, the eastern sidewall of Hot Spot 1 was extended approximately 10 feet further. The southern edge of the eastern wall was not extended due to the presence of Monitoring Well MW-19 in the immediate vicinity of the excavation. Two additional samples were collected from the bottom of the extended excavation sidewall. These samples did not indicate compliance with the remedial goals specified in the ROD, therefore, on 14 December 1994, the eastern side of the excavation was extended an additional 10 feet. One sidewall and one bottom sample were collected. The analytical results did not indicate compliance with the site-specific remedial goals.

The eastern sidewall of the excavation was expanded an additional 10 feet on 20 December 1994, and two additional sidewall samples were collected. The analytical results for the samples collected on 20 December were less than the remedial goals specified in the ROD, indicating that the lateral extent of contamination had been delineated and remediated. ✓

The total size of the excavation was approximately 70 feet long, ranged from 16 to 33 feet in width, and had an average depth of 9 feet below grade. A total of eight post-excavation soil samples were collected. Table 2-7 of the quarterly report dated April 1995 presents the]α



analytical results for the post-excavation samples collected from this hot spot. Figure 2-6 in Appendix A presents the results of the post-excavation sampling on an area-specific map.

The NJDEP required WESTON to collect additional soil samples to further delineate the distribution of DEHP associated with Hot Spot 1. On 22 February 1996, WESTON submitted a delineation plan for Hot Spot 1 to the NJDEP.

To further delineate DEHP associated with Hot Spot 1, WESTON collected 11 soil samples, including one field duplicate sample, for DEHP analysis from six soil borings. All samples, including the required QA/QC samples (field blank and duplicate) were collected in compliance with protocols presented in the NJDEP's Field Sampling Procedures Manual dated May 1992, and the relevant Technical Requirements (N.J.A.C. 7.26E, et. seq.). Soil samples were collected using the split-spoon sampling method, and borehole advancement was performed using the air rotary techniques. In an attempt to reduce the possibility of cross-contamination between sampling depths/locations, the split-spoon samplers were steam cleaned after each use. A summary of the samples collected is presented in Table 2-5 in Appendix B. Figure 2-6 in Appendix A presents the locations of the delineation borings for Hot Spot 1 and the corresponding analytical results. Boring logs are presented in Appendix D.

The analytical results of the soil samples collected during the Second Quarter 1996 investigation indicate the presence of DEHP in all of the soil samples collected, and the field blank collected on 13 May 1996 (FB03S, 8 $\mu\text{g/L}$). The detected concentrations of DEHP ranged between 2.6 mg/kg in sample B6-2 (location B6, 8 to 8.5 feet below grade), and 790 mg/kg in sample B3-2 - diluted (location B3, 11.2 and 11.6 feet below grade). Analytical results of the soil samples B-1, B2A-1, B3-1, B4-1, B5-1, B6-1, and B6-2, that were collected at depths that correspond to above the water table are at concentrations less than the remedial goal. Analytical results of the soil samples B1-2, B2A-2 and B3-2, collected at depths that correspond to below the water table encountered in the borings, indicate the presence of DEHP at concentrations greater than the remedial goal. In sample B4-1, (location B4, 6.0 to 6.8 feet below grade) the concentration of DEHP (47 mg/kg - diluted) was less than the remedial goal of 100 mg/kg; however, its duplicate sample B4-2, the concentration of DEHP (130 mg/kg - diluted) was greater than the remedial goal. A heavy product sheen and product staining was identified in soil borings B1 (10.3 to 10.8 feet below grade) and B2 (10 feet below grade); respectively. In boring B-1, the 10.3 to 10.8 foot interval corresponds to a depth below the concrete pad used to secure the former USTs. Table 2-6 in Appendix B presents the sample depth and the analytical results of the samples collected. The samples with detectable concentrations of DEHP in excess of the remedial goal of 100 mg/kg are highlighted.

2.2.2 Hot Spot 4

Hot Spot 4 was excavated on 21 December 1994. The size of the excavation was approximately 21 feet by 21 feet by 3.5 feet deep. One bottom and three sidewall post-excavation samples were collected. Analytical results indicated that the extent of excavation had been defined and remediated on the northwest and southwest sides, but that further excavation was warranted on the northeast side and that the depth of the excavation had to be increased. On 29 December 1994, the depth of the excavation was increased to approximately 6 feet below grade. In addition, the sidewall was extended approximately 4 feet in the area where elevated DEHP concentrations were indicated. (Table 2-10 of the April 1995 quarterly report presents the analytical results of the samples collected from this hot spot).

The NJDEP required WESTON to collect additional soil samples to delineate the distribution of DEHP associated with Hot Spot 4. On 27 September 1995, WESTON submitted a delineation plan to the NJDEP outlining the scope of work to be completed during Second Quarter, 1996 to delineate the DEHP associated with Hot Spot 4. ✓

To further delineate DEHP associated with Hot Spot 4, WESTON collected 12 soil samples, including a duplicate sample. All samples, including the required QA/QC samples (field blank and duplicate) were collected in compliance with protocols presented in the NJDEP's Field Sampling Procedures Manual dated May 1992, and the relevant Technical Requirements (N.J.A.C. 7.26E, et. seq.). All soil samples were collected using a decontaminated stainless steel sampling trowel, except for the soil samples collected from HS4-PES-10, where the split-spoon sampling method was employed. The borehole advancement was performed using the air rotary technique. A summary of the samples collected are presented in Table 2-7 in Appendix B. The sampling locations and the analytical data are presented on Figure 2-9 of Appendix A. A boring log for HS4-PES-10 is presented in Appendix D.

The analytical results of the soil samples collected during the Second Quarter 1996 investigation indicate the presence of DEHP in all of the soil samples collected. The detected concentrations of DEHP ranged between 8.1 mg/kg in sample 4-DEL-6 (location 4-DEL-6, 0.0 to 0.2 feet below grade), and 14,000 mg/kg in sample HS4-PES-10B - diluted - (location HS4-PES-10, 7.0 to 7.8 feet below grade). Both sample intervals in HS4-PES-10 were collected from depth intervals that correspond to below the water table, and the presence of DEHP in these samples may be attributed to product fluctuations. In three samples, the concentration of DEHP was in excess of the remedial goal. Table 2-8 in Appendix B presents the sample depth and the analytical results of the samples collected. The samples with detectable concentrations of DEHP in excess of the remedial goal of 100 mg/kg are highlighted.

2.2.3 MW-19 Soil Delineation

To further define the distribution of VOCs in soils in the vicinity of MW-19 and the former USTs from that area, a soil investigation was conducted as part of the Second Quarter, 1996 field activities. During this investigative effort, a total of 17 soil samples were submitted for VOCs plus 10 tentatively identified compounds (VOC+10) analysis, which includes a duplicate sample from nine soil borings performed in the vicinity of MW-19. All samples, including the required QA/QC control samples (field blank and duplicate) were collected in accordance with protocols presented in the NJDEP's Field Sampling Procedures Manual dated May 1992, and the relevant Technical Requirements (N.J.A.C. 7.26E, et. seq.). Soil samples were collected using the split-spoon sampling method, and the borehole was advanced using air rotary techniques. To reduce the possibility of cross-contamination between sampling depths/locations, the split-spoon samplers were steam-cleaned after each use. A summary of the samples collected are presented in Table 2-9 in Appendix B. Figure 2-7 presents the MW-19 delineation sampling locations. Boring logs are presented in Appendix D. Figure 2-8 presents a geologic cross section in the vicinity of Hot Spot 1 and MW-19.

The analytical results of the soil samples collected during the Second Quarter 1996 investigation indicate that target VOCs+10 were not detected at concentrations greater than the site-specific remedial objectives. Additionally, the NJDEP's criterion for total volatile organics (target plus tentatively identified compounds) was not exceeded at any of the sample locations. Table 2-10 in Appendix B presents the sample depth and the analytical results of the samples collected.

2.3 DEVIATIONS FROM THE PROPOSED SCOPE OF WORK

Due to field conditions encountered, the investigative scope of work concerning the soil issues was modified. Deviations from the proposed scope of work presented by areas of investigation concerning soil issues include the following:

Hot Spot B

- 1) A total of 12 soil borings were performed instead of the proposed 17 soil borings. The presence of the foundation backfilled with concrete precluded rig access and therefore soil samples could not be collected.
- 2) Soil sampling depths and intervals were modified in the field based on recovery. Table 2-1 presents the sampling depths and intervals.
- 3) A "deep" soil sample was not collected from SB-8 due to the nature of the material encountered during drilling and the poor recovery obtained by split-spoon sampling.

- 4) Field blanks were collected for each day of sampling.
- 5) Location modifications were required because of field constraints. The sampling locations are presented on Figure 2-2.

Hot Spot C

- 1) A total of 12 soil borings were performed instead of the proposed 14 soil borings. The presence of a foundation backfilled with concrete, and a steep fill embankment precluded rig access, and therefore soil samples could not be collected.
- 2) Soil sampling depths and intervals were modified in the field based on recovery. Table 2-3 presents the sampling depths and intervals.
- 3) A "deep" soil sample was not collected from C-13 due to the nature of the material encountered during drilling, and the poor recovery obtained by split-spoon sampling.
- 4) Field blanks were collected for each day of sampling.
- 5) Location modifications were required because of field constraints. The sampling locations are presented on Figure 2-3.

Hot Spot 1

- 1) A total of seven soil borings were performed instead of the six proposed. Soil boring B2 was redrilled and designated as B2A because the original boring was performed within the former footprint of the excavation.
- 2) Soil sampling depths and intervals were modified in the field based on recovery. Table 2-5 presents the sampling intervals and depths.
- 3) "Deep" soil samples were not collected from borings B4 and B5 due to the nature of the material encountered and the poor recovery obtained by split-spoon sampling.
- 4) Split-spoon samplers were steam-cleaned between sampling intervals in addition to using the NJDEP-required decontamination method for split-spoon samplers to reduce the possibility of cross-contamination.

- 5) Location modifications were required because of field constraints. The sampling locations are presented on Figure 2-6.

Hot Spot 4

- 1) Soil sampling depths and intervals were modified in the field based on recovery. Table 2-7 presents the sampling intervals and depths.
- 2) Location modifications were required because of field constraints. The sampling locations are presented on Figure 2-9.

MW-19 Delineation

- 1) Two soil samples were not collected from soil borings B-1 and B-9. At B-1 a second sample was not collected due to the nature of the material encountered and the poor sample recovery obtained by the split-spoon sampling method. At B-9, only one sample was collected because of the shallow water table, approximately 1.7 feet below grade.
- 2) Field screening results were consistently low, less than 5 units on the calibrated OVM, throughout the material recovered. Samples depths were biased toward stratigraphic changes, depths above the water table, and intervals throughout the vadose zone so that the vertical distribution of VOCs could be determined.
- 3) Soil sampling depths and intervals were modified in the field based on recovery. Table 2-9 presents the sampling intervals and depths.
- 4) Location modifications were required because of field constraints. The sampling locations are presented on Figure 2-7.
- 5) Three soil samples were collected at depth intervals that correspond to below the water table as determined by the depth to water measurements obtained from the temporary micro-wells.
- 6) A jack hammer was used to advance the borehole at B-9 because of the access limitations of working in a building basement.

SECTION 3.0

GROUNDWATER INVESTIGATION

Groundwater investigation tasks completed during the Second Quarter 1996 include the following:

- 1) Evaluation of lead in groundwater (includes the collection of groundwater samples from well points WP-A7 and WP-A9).
- 2) Delineation of VOCs in groundwater in the vicinity of MW-19.
- 3) Installation and sampling of two groundwater monitoring wells.
- 4) Performance of percolation tests.
- 5) Monitoring of water level and product thicknesses.
- 6) Sampling of the monitoring wells identified for quarterly monitoring.

3.1 LEAD IN GROUNDWATER

Table 3-1 in Appendix B presents a summary of groundwater lead data, including the groundwater samples acquired from WP-A7 and AP-A9 during Second Quarter 1996, collected during the remedial investigation and subsequent quarterly sampling events. As the table indicates, lead was seldom detected in groundwater samples at concentrations greater than the relevant Groundwater Quality Criteria (GWQC) referenced in the ROD of 10 $\mu\text{g/L}$. Lead concentration exceeded the criterion in only 6 of 74 samples. Samples collected from the four monitoring wells sampled during the fourth round of RI sample collection (MW-22, MW-23, MW-24, and MW-25) were analyzed for total and soluble lead. While the total lead concentrations in samples collected from each well were greater than the criterion of 10 $\mu\text{g/L}$, the soluble lead concentrations in samples from each well were not detectable at 3 $\mu\text{g/L}$. This result suggests that the lead concentrations detected in the "total" lead samples are attributable to lead adsorbed to (or part of) the silt present in the water samples. Clearly, lead concentrations in groundwater samples collected in the immediate vicinity of the fill present over much of the site do not indicate that groundwater quality has been impacted by the lead concentrations present in the fill material. Additionally, the distribution of lead in groundwater at concentrations slightly in excess of the GWQC does not correlate with the product, and volatile organic and semivolatile groundwater plume delineated on site.

Groundwater samples were collected in July 1996 from well points WP-A7 and WP-A9 for total and soluble lead. These sampling locations were selected because they were located in the area where soil analytical data suggested that lead levels in the fill were highest. The samples were collected via a peristaltic pump using low-flow sampling techniques to minimize silt content and to collect a groundwater sample from beneath the floating product. Two samples were collected from each well point. The first sample collected from each sampling location was submitted for total lead concentration, while the second sample was field filtered using a 0.45-micron filter. The filtered sample was submitted for soluble lead analysis. All samples were field-preserved with nitric acid. The analytical data package is included as Appendix H.

The analytical results for these samples indicated that lead was detected at low concentrations in the four samples collected. In WP-A7, the soluble and total lead results were 2.8 $\mu\text{g/L}$ and 1.6 $\mu\text{g/L}$; respectively. In WP-A9, the soluble and total lead results were 2.3 $\mu\text{g/L}$ and 2.2 $\mu\text{g/L}$; respectively. The use of low-flow sampling techniques have resulted in "total" lead groundwater samples that are representative of aquifer conditions. These results indicate that the lead concentrations detected in the fill present at the site, specifically in the vicinity of Hot Spots B and C, have not impacted groundwater quality and that lead is therefore not a compound of concern.

3.2 MW-19 DELINEATION

Results of previous groundwater sampling events conducted at MW-19 indicate the presence of select VOCs, primarily toluene and xylenes (total). To further define the extent of the VOCs in groundwater, WESTON submitted a delineation plan dated 18 October 1995 to the NJDEP.

To complete the scope of work presented in the 18 October 1995 correspondence, WESTON collected nine groundwater samples for VOC+10 Tentatively Identified Compounds and 2-butanone (including the one field duplicate sample). All samples including the required QA/QC samples were collected in compliance with protocols presented in the NJDEP's Field Sampling Procedures Manual dated May 1992, the relevant Technical Requirements (N.J.A.C. 7.26E, et. seq.), and the NJDEP's Alternative Ground Water Sampling Techniques dated July, 1994. The groundwater samples were collected using a laboratory decontaminated teflon bailer attached to a teflon-coated stainless steel leader. The samples were collected from a location consisting of dedicated, passively placed, temporarily installed, two-inch diameter polyvinyl chloride (PVC) diameter well points (micro-wells) set in the shallow portion of the aquifer. Each micro-well was bailed of three to five volumes prior to sample acquisition. At location B-9, the boring conducted within the basement of the building, the sample was collected by lowering a laboratory-decontaminated bailer directly into the borehole and acquiring a sample without bailing. At no locations was a separate phase liquid encountered. All micro-wells were removed within 48 hours of installation. A summary of the samples collected that are associated with the MW-19 groundwater delineation are presented in Table 3-2 of Appendix B. Figure 2-7 in Appendix A presents the sampling locations and analytical results of concentrations in excess

of remedial goals on a scaled drawing. Boring logs and micro-well construction details are presented in Appendices D and E; respectively.

The analytical results of this investigative effort indicated a limited distribution of VOCs in this area. No target VOCs were detected in samples BW-1 and its' duplicate BW-11 (boring location B1), BW-6 (boring location B-6), and BW-9 (boring location B-9). In samples BW-3 (boring location B-3), BW-5 (boring location B-5), BW-7 (boring location B-7), and BW-8 (boring location B-8), detectable concentrations of target VOCs, specifically toluene, 2-Butanone, 4-methyl-2 pentanone, total xylenes, and acetone, were detected at concentrations below their applicable GWQC. In sample BW-2 (boring location B-2), toluene (200,000 micrograms per liter - $\mu\text{g/L}$), ethylbenzene (7,600 $\mu\text{g/L}$), and total xylenes (41,000 $\mu\text{g/L}$) were detected at concentrations above GWQC. In sample BW-4 (boring location B-4), toluene (200,000 $\mu\text{g/L}$), ethylbenzene (7,600 $\mu\text{g/L}$), and total xylenes (38,000 $\mu\text{g/L}$) were detected at concentrations above GWQC. The presence of these elevated concentrations in samples BW-2 and BW-4 required that the method detection limits (MDLs) be elevated. The MDLs are presented with the analytical results in Table 3-3 in Appendix A.

3.3 MONITORING WELL INSTALLATION AND SAMPLING

Two monitoring wells were installed to further delineate the extent of impacted groundwater in the shallow aquifer beneath the site. Monitoring Well MW-26 was installed to identify groundwater quality and groundwater flow conditions in the northeast portion of the site. Monitoring Well MW-12R was installed at the request of NJDEP to replace the former MW-12 well cluster that was abandoned for the remediation of Hot Spot 6. During the excavation of Hot Spot 6, clay was observed at a depth of approximately 7 feet below grade. This clay material was not identified on the boring log for the MW-12 cluster that was installed by a previous consultant. To further investigate the effect of this clay material on groundwater flow and contaminant migration, the NJDEP requested that L.E. Carpenter install a monitoring well. Figure 3-1 in Appendix A presents the monitoring network at the site.

Pilot hole borings were performed at each of the locations where monitoring points were installed. Pilot/soil boring logs are provided in Appendix D. Boreholes were advanced utilizing air rotary drilling techniques. During the drilling of these pilot holes, split-spoon samplers were driven as often as conditions permitted to identify the stratigraphic sequence. A clay material was encountered in MW-12R at approximately 6.5 feet below grade; however, only approximately 3 inches were recovered in the continuously sampled borehole. A double-cased monitoring well was not installed because of the thin, less than 0.5 foot of layer of clay. Product was identified in the soil recovered from below the clay material. At MW-26, no elevated readings were detected on the calibrated OVM.

Monitoring well installation and development were performed in accordance with NJDEP procedures. Well screening intervals were set to straddle the water table so that the presence

of a Light Non Aqueous Phase Liquid could be identified, if present. All tubing used in the well development was clean and dedicated to a specific well.

Both monitoring wells are of similar construction. Each of the wells was constructed of flush threaded Schedule 40 PVC screen and riser. MW-12R has a 12 foot screen set to straddle the water table. MW-26 has a 10 foot screen set to straddle the water table. Both wells were completed with stick-up protective steel casings. The specific well completion details are presented on the monitoring well construction logs presented in Appendix E.

The monitoring wells were developed using the pump and surge, and over pumping techniques. MW-26 was developed using a centrifugal pump and a dedicated drop line. The short-term yield of this well is approximately 6 gallons per minute (gpm). MW-12R was developed using a submersible pump. The short term yield of this well is approximately 5 gpm. All development fluids from MW-12R were containerized in 55-gallon drums.

On 8 July 1996, groundwater samples from MW-12R and MW-26, and the NJDEP required QA/QC samples (field blank, trip blank, and duplicate) were collected. Samples collected were analyzed by U.S. EPA Method 602 for BTEX and by U.S. EPA Method 625 for DEHP.

Groundwater samples were collected in accordance with protocols provided in the NJDEP's Field Sampling Procedures Manual (May 1992). Each well was purged of three to five well volumes of groundwater prior to sampling utilizing laboratory-decontaminated teflon bailers. The laboratory-decontaminated teflon bailers were attached to a decontaminated, teflon-coated stainless steel leader.

During well purging procedures, field measurements were obtained using a calibrated YSI 3560 Water Quality Monitoring System (temperature, specific conductivity, pH, and millivolts). A calibration check was conducted on 8 July 1996 prior to sampling. During the purging of MW-12R, the instrument malfunctioned and no readings were collected. The well purge data are presented on completed groundwater sampling forms presented in Appendix G.

Groundwater samples were collected upon completion of well purging. The laboratory-decontaminated teflon bailer was used to collect the sample from the wells. The bailer was lowered slowly into the well to avoid aeration of the groundwater sample, retrieved, and then the sample was transferred into the laboratory-provided sample bottles. All samples were labelled and placed in a laboratory cooler on ice (4°C). The samples were subsequently transported to the laboratory within 24 hours of collection for analysis.

A field blank was collected as required by the NJDEP's Field Sampling Procedures Manual dated May 1992. The field blank, designated as 070896, was obtained by pouring laboratory-provided analyte-free water over a laboratory-decontaminated teflon bailer. The field blank was

analyzed for BTEX and DEHP. A laboratory-prepared trip blank was included with the samples and analyzed for BTEX.

Duplicate samples were collected at a rate of 5% of the total number of groundwater samples collected per analyte throughout the sampling event. As per the 5% frequency, one duplicate sample (designated as MW-31) was collected during this quarterly sampling event.

The analytical data was compared to the criteria presented in the ROD and the NJDEP's Groundwater Quality Criteria. The comparison indicated that in MW-12R, ethylbenzene, xylenes (total), and DEHP were detected at concentrations above the applicable criteria. In MW-26, none of the VOC parameters were detected at concentrations above criteria. DEHP was detected at 69 $\mu\text{g/L}$.

Analytical data concerning the distribution of BTEX and DEHP were compiled as part of the quarterly groundwater sampling effort. The BTEX and DEHP results are presented on Tables 3-4 and 3-5 in Appendix B; respectively.

3.4 PERCOLATION TESTING

Percolation tests were conducted on 8 and 9 May 1996, to identify the vadose zone's ability to accept water and identify percolation rates at different locations and depths across the site. These tests were conducted to supplement the information obtained from percolation tests conducted in January 1995. The location of the percolation test holes are presented on Figure 3-2 in Appendix A.

Percolation tests were conducted at six boreholes identified as PERC-4, PERC-5, PERC-6, PERC-7, PERC-8, and PERC-9. Each test hole was advanced by drilling a 8-inch diameter borehole utilizing air drilling rotary techniques. The completion depths of the boreholes were PERC-4 (2.0 feet below grade), PERC-5 (1.9 feet below grade), PERC-6 (3.4 feet below grade), PERC-7 (1.8 feet below grade), PERC-8 (3.4 feet below grade), and PERC-9 (6.05 feet below grade). The material encountered in the boreholes was identified by logging cuttings brought to the surface, observing the sidewalls of the borehole, and collecting split-spoon samples. Boring logs are presented in Appendix D. Due to the nature of the material encountered, 6-inch diameter slotted PVC was installed in each borehole to keep it from collapsing.

Percolation tests were performed in accordance with N.J.A.C. 7:9A-6.4. Water level measurements collected during the percolation tests were measured from fixed measuring points marked on the PVC casing.

An initial pre-soak period prior to the percolation tests consisted of maintaining at least 12 inches of water in each test hole for a period of four hours. At the end of four hours, water was no longer added to the holes. The holes were then allowed to drain for approximately 22 hours.

If water remained in the hole after the pre-soak period, the test was terminated and the percolation rate was reported as greater than 60 minutes per inch. If no water remained in the test holes after the pre-soak effort, the percolation rates were determined utilizing a 2-step process. This process is summarized below:

Step One -- First, the hole was filled with 7 inches of water. At a 5- to 30-minute time interval, depending on the water's rate of fall, the drop in water level was measured to the nearest one-tenth of an inch. The time interval used for each hole was 5 minutes. After the time interval was complete, the hole was refilled with water to 7 inches and the procedure was repeated until a constant rate of fall was attained. A constant rate of fall was attained when the difference between the highest and lowest of three consecutive measurements was within two-tenths of an inch. Table 3-6 in Appendix B presents the water levels in each hole during Step One.

Step Two -- The test hole was refilled with approximately 7 inches of water and the time required for exactly 6 inches of water to seep away was recorded. This value divided by six is the percolation rate in minutes per inch for that soil. Table 3-7 in Appendix B presents the water levels collected during this step.

Water remained in PERC-4, PERC-5, and PERC-8 after the pre-soak period, so their percolation rates were determined to be greater than 60 minutes per inch. It took approximately 11 and 9 minutes for 6 inches of water to seep out of PERC-6 and PERC-9, respectively. Thus, PERC-6 has a percolation rate of 1.9 minutes per inch and PERC-9 has a rate of 1.5 minutes per inch. The percolation test was not completed at PERC-7; however, the rate was identified as greater than 60 minutes per inch.

3.5 WATER LEVEL AND PRODUCT THICKNESS MEASUREMENTS

A synoptic round of water level and product thickness measurements was collected from the site's monitoring wells, well points, and staff gauges on 13 June 1996. Appendix F presents these measurements. Water levels were measured in all of the existing monitoring points with the exception of well point WP-A4, which is a flush mount piezometer located beneath a former soil staging area; well point WP-A2, which has a bent casing/riser; river point RP-1; drainage channel points DC-P1 and DC-P5, which were inaccessible due to high water levels; and monitoring wells MW-22 and MW-24, which had obstructions in the well casings. Water level and product thickness measurements were obtained using either a calibrated oil/water interface probe or an electronic water level indicator.

Corrected water level elevations were within the historic range of water levels collected during this period. A review of these data indicate that there was a general decrease in corrected water level elevations in the majority of the points which comprise the monitoring network.

The only well which did not exhibit a decrease was MW-17D, which had the same water level elevation as it did during First Quarter 1996. Also, drainage channel points DC-P0, DC-P2, and DC-P4 increased by 1.11 feet, 0.43 foot, and 0.79 foot, respectively. The downward fluctuations in corrected groundwater elevations ranged between 0.22 foot at RP-02 to 2.46 feet at MW-22. This general decrease in corrected water level elevations can be attributed to the amount of precipitation during the Second Quarter 1996 reporting period (April through June) as compared to First Quarter 1996.

Equipotential maps of the shallow and intermediate aquifer zones were constructed based on the results of the 13 June 1996 monitoring event. Groundwater flow direction and gradients are consistent with earlier monitoring events. Groundwater in the shallow zone generally flows from the Rockaway River, across the site, towards the east/northeast. Groundwater flow in the intermediate zone is similar, but directed more to the southeast than during First Quarter 1996. The equipotential maps for the shallow and intermediate aquifer zones are presented in Appendix A on Figures 3-3 and Figure 3-4, respectively.

3.6 PRODUCT DELINEATION

Product delineation was performed by measuring product thickness in each monitoring point in which product was encountered. At each location where product was encountered, its thickness was measured using an oil/water interface probe, to one hundredth (0.01) of a foot.

Product was encountered in 17 of the monitoring points. Nine wells (MW-2, MW-7, MW-11S, WP-A1, WP-A7, WP-A8, WP-B3, WP-B4, and WP-B7) exhibited an increase in product thickness, while seven wells (MW-3, MW-4, MW-6R, WP-A5, WP-A6, WP-A9, and WP-B5) exhibited a decrease in product thickness. An isopach map of apparent product thickness is provided in Appendix A on Figure 3-5.

The greatest layer of apparent product thickness was 3.74 feet in WP-A6. The product footprint remained similar to that during First Quarter 1996, and has remained relatively consistent throughout the 1994 and 1995 product monitoring events.

3.7 QUARTERLY GROUNDWATER SAMPLING

On 14 June 1996, groundwater samples were collected from six on-site monitoring wells as part of the revised quarterly sampling program, which was initiated during the Second Quarter 1995 sampling event. Samples collected during this sampling round were analyzed by U.S. EPA Method 602 for BTEX and by U.S. EPA Method 625 for DEHP. Envirotech Research, Inc., a NJDEP-certified laboratory, was utilized for sample bottle preparation and sample analyses. A groundwater sample was not collected from Monitoring Well MW-22 because the Well Wizard pump is in disrepair. On 8 July 1996, a sample was acquired from MW-22 by utilizing

a peristaltic pump and well-dedicated discharge line. Table 3-8 in Appendix B presents a quarterly sampling summary.

Groundwater samples were collected in accordance with protocols provided in the NJDEP's Field Sampling Procedures Manual (May 1992). Each well was purged of three to five well volumes of groundwater prior to sampling utilizing a laboratory-decontaminated teflon bailer or a dedicated well wizard pump (MW-25). The laboratory-decontaminated teflon bailers were attached to a decontaminated teflon coated stainless steel leader.

During well purging procedures, field measurements were obtained using a calibrated YSI 3560 Water Quality Monitoring System (temperature, specific conductivity, pH, and milli-volts). A calibration check was conducted on 14 June 1996 prior to sampling. A minimum of two readings (initial and final) was collected during each well's purge procedures. These data are presented on the completed groundwater sampling forms presented in Appendix G.

In MW-22, xylenes (total) was the only compound detected in excess of the relevant NJDEP criteria. During the Second Quarter 1996, all other detected concentrations were below the relevant criteria. In MW-4, ethylbenzene was detected at 7.0 $\mu\text{g/L}$, and xylenes (total) was detected at 7.8 $\mu\text{g/L}$. Both concentrations are below GWQC referenced in the ROD, and the concentrations detected in MW-4 during the First Quarter, 1996 sampling event. In MW-22, ethylbenzene was detected at 258 $\mu\text{g/L}$ which is below the NJDEP criteria. During the 1995 quarterly sampling events xylenes (total) in MW-22 was consistently detected at concentrations in excess of GWQC referenced in the ROD.

DEHP was detected at concentrations above the applicable GWQC referenced in the ROD criteria in the quarterly samples collected at MW-4 and MW-22. DEHP was detected at 9,300 $\mu\text{g/L}$ (MW-4) and 70 $\mu\text{g/L}$ (MW-22). During the 1995 quarterly sampling events, DEHP in MW-4 and MW-22 was consistently detected at concentrations in excess of GWQC.

3.8 DEVIATIONS FROM THE PROPOSED SCOPE OF WORK

Due to field conditions encountered, the investigative scope of work concerning the groundwater issued was modified. Deviations from the proposed scope of work concerning groundwater investigation activities include the following:

Lead Groundwater Data

- 1) Two well points, WP-A7 and WP-A9, were sampled for total and soluble lead analysis to identify whether the lead identified in the fill material was affecting shallow groundwater quality.

MW-19 Delineation

- 1) The proposed locations were modified to allow for rig access. The locations sampled are presented on Figure 2-7.
- 2) Geoprobe, hydropunch, and hollow stem auger drilling techniques for groundwater sample acquisition were determined to be ineffective because of the geologic materials that comprise the site (i.e., boulders and cobbles). As a result, passively placed narrow-diameter points (micro-well) were utilized for the collection of groundwater screening samples, except for the groundwater sample taken from B-9 located in the basement of a building.
- 3) A bailer was lowered directly into the groundwater for the collection of groundwater sample B-9.

Groundwater Sampling

- 1) A groundwater sample was acquired from MW-22, using a peristaltic pump and well-dedicated discharge line.
- 2) Groundwater samples were collected from the two newly installed wells and analyzed for BTEX and DEHP.

SECTION 4.0

CONCLUSIONS AND RECOMMENDATIONS

The following summarizes the conclusions and recommendations for each specific area investigated. The conclusions and recommendations detailed below are based upon the evaluation of the Second Quarter 1996 data as well as the existing data collected prior to this quarter.

4.1 SOILS

The conclusions and recommendations for each of the areas concerning soil issues are presented in the following subsections.

4.1.1 Hot Spots B and C

A summary of lead data generated during the remedial investigation and post-excavation remedial action sampling efforts were tabulated and presented in a letter to the NJDEP dated 21 December 1995. At the request of the NJDEP, WESTON on behalf of L.E. Carpenter, performed a series of 24 soil borings from which soil samples were collected at different depths. Twelve of these borings associated with each hot spot. A graphical depiction of lead concentrations detected in all soil samples collected during the all phases of the investigation is provided on Figures 2-1 through 2-5.

The analytical database contradicts the concept of defined "hot spots" associated with former L.E. Carpenter operations (i.e., loading docks). The random distribution of lead in soils is indicative of the quality of fill prevalent throughout the site. The extent or boundary of soils with lead concentrations greater than 600 mg/kg cannot be determined horizontally or vertically. In addition, groundwater samples collected from WP-A9 and WP-A7, which are located in proximity to Hot Spots B and C indicate that the lead present in the soil and fill is not adversely impacting groundwater quality beneath the site. Based on this information, it is concluded that the engineering controls that are planned for the site (e.g., deed of environmental restriction and soil cover) will be protective of human health and the environment even with the naturally elevated lead concentrations remaining. As such, WESTON recommends that no further investigative or removal actions be taken to address these soils.

4.1.2 Hot Spot 1

During Second Quarter 1996, soil samples were collected at different vertical intervals throughout the soil column in the vicinity of Hot Spot 1. Elevated concentrations of DEHP in excess of the remedial objective of 100 mg/kg were detected in soils at or below the

groundwater table. Soil samples collected above this zone of groundwater influence exhibit DEHP concentrations below the remedial objective. As such, it has been demonstrated that the presence of DEHP in the soils in the vicinity of Hot Spot 1 is related to the result of fluctuating water table conditions.

Based on the soil analytical data collected during the previous Hot Spot 1 excavation and the Second Quarter 1996 sampling activities in the vicinity of Hot Spot 1, no further remedial activities relating to soil are recommended. Conclusions and recommendations pertaining to the groundwater quality in this area are provided in Section 4.2.

4.1.3 Hot Spot 4

LNAPL

Soil samples collected during Second Quarter 1996 indicate that the areas of DEHP concentrations in excess of the remedial goal is limited to 4-DEL-2, HS4-PES-10B, and HS4-PES-10C. Samples collected from boring HS4 were collected at depths that correspond to below the water table. The presence of DEHP in these samples can be attributed to the Light Non-Aqueous Phase Liquid (LNAPL) in this portion of the site. DEHP at these depths will be addressed during the remediation of groundwater. The presence of a elevated concentration of DEHP at location 4-DEL-2 indicates the horizontal extent of DEHP associated with this hot spot. "Clean zones", or locations where the concentrations of DEHP are below the remedial goal, were identified in the delineation samples 4-DEL-1, 4-DEL-6, 4-DEL-3, and 4-DEL-7 that surround 4-DEL-2.

It is recommended that approximately 32 cubic yards of additional soil be removed. The extent of the excavation would include sample location 4-DEL-2. The delineation samples 4-DEL-1, 4-DEL-6, 4-DEL-3, and 4-DEL-7 that surround 4-DEL-2 would serve as post-excavation samples, and therefore no additional soil samples would be collected. Consistent with the ROD, the excavated soils will be moved to the former Waste Disposal Area which lies within the planned treatment zone.

4.1.4 MW-19 Area

During Second Quarter 1996, soil samples were collected at different vertical intervals throughout the soil column in the vicinity of MW-19. The resultant analytical data indicated that VOCs were not detected at concentrations greater than the site-specific remedial objectives. As a result, no further investigative or remedial actions are required for these soils.

4.2 GROUNDWATER

The conclusions and recommendations for each of the areas concerning groundwater issues are presented in the following subsections.

4.2.1 MW-19 Area

Target VOCs were detected at concentrations in excess of the GWQC referenced in the ROD at two locations sampled during the delineation in the vicinity of MW-19. These samples are designated as BW-2 and BW-4. Both of these samples were collected in proximity to the former USTs.

The delineation of the limited VOC plume in groundwater is partially complete. Water level data have consistently indicated that groundwater flow is away from Washington Forge Pond and toward the site. As a result, the plume has been delineated to the west (upgradient, Sample BW-1), to the south (Samples BW-3 and BW-9), and toward the east (downgradient, Samples BW-5, BW-6, BW-7, and BW-8). Additional groundwater delineation is required to the north along the site boundary with Ross Street (in proximity to the location where BW-2 was collected).

To further delineate the impacted portion of the aquifer in the vicinity of MW-19, additional investigative activities are proposed. These investigative activities include the collection of groundwater screening samples, the installation and sampling of an additional monitoring well, and the sampling of two existing monitoring wells.

WESTON proposes to install three soil borings using the air rotary drilling technique at locations presented on Figure 4-1. During this drilling, split-spoon samples will be collected as often as conditions allow, and will be field-screened using a calibrated OVM.

Upon penetrating the water table, a temporary 2-inch diameter PVC passively placed well points will be installed and sampled according to procedures presented in the NJDEP's Alternative Ground Water Sampling Techniques Guide, dated July 1994. A sample will be collected from each location. All samples will be analyzed for BTEX and DEHP by a NJDEP-certified laboratory on a quick turnaround basis. Based upon conditions encountered and analytical results, contingent delineation borings/groundwater screening locations and the possible modification of a temporary well point to a permanent monitoring well will be considered.

A single 4-inch diameter PVC monitoring well will be installed in the vicinity of the Boring B1 completed during Second Quarter 1996 activities. During the drilling of the monitoring well's pilot hole, split-spoon samples will be collected and field-screened with a calibrated OVM. This proposed well will be installed with a well screen set to straddle the water table so that the presence of non-aqueous phase liquids, if present, can be monitored. This well will be installed in compliance with all relevant NJDEP procedures and regulations.

Upon installation and development of the monitoring well, a groundwater sample will be collected in compliance with applicable NJDEP protocols. The sample will be analyzed for BTEX and DEHP by a NJDEP-certified laboratory.



Existing wells MW-19 and GEI-2S will be sampled according to applicable NJDEP protocols. The samples will be analyzed for BTEX and DEHP by a NJDEP-certified laboratory.

Analytical results of this proposed groundwater investigation will supplement the existing database. The cumulative analytical data will be used to identify the horizontal and vertical extent of chemically impacted groundwater in this portion of the aquifer.

4.2.2 Quarterly Groundwater Monitoring

Water level and product thickness measurements collected during Second Quarter 1996 identified groundwater flow conditions at the site. Evaluation of the resultant data indicate that flow directions and hydraulic gradients in the shallow and intermediate aquifer zones are similar to preceding monitoring events.

Analytical results of samples collected during Second Quarter 1996 from the monitoring wells sampled on a quarterly basis indicate that the extent of the groundwater plume has remained consistent, and the detected concentrations of chemical constituents of concern are similar to previous quarterly sampling results. In addition, the supplemental analytical data obtained by sampling the newly installed monitoring well designated MW-26, delineates a northeastern boundary of the groundwater plume identified on-site.

4.2.3 Product Recovery

Product recovery at the site has proven to be effective based on the volume of product recovered, and the limited apparent product thickness measured in the site's monitoring points. A total of approximately 110 gallons of product has been recovered in 1996 of which approximately 48 gallons were recovered during Second Quarter 1996. Product recovery by operation of the enhanced product recovery system, and manual bailing will continue into the upcoming quarters.



**SECOND QUARTER PROGRESS REPORT
L.E. CARPENTER SITE
WHARTON, NEW JERSEY**

VOLUME 2 OF 2

August 1996

Work Order No.: 06720-018-003-0002-00

Prepared on behalf of

L.E. CARPENTER AND COMPANY

For the

**NEW JERSEY DEPARTMENT OF ENVIRONMENTAL
PROTECTION**

Prepared by

**ROY F. WESTON, INC.
Raritan Plaza III
Suite 2B
Raritan Center
Edison, New Jersey 08837**

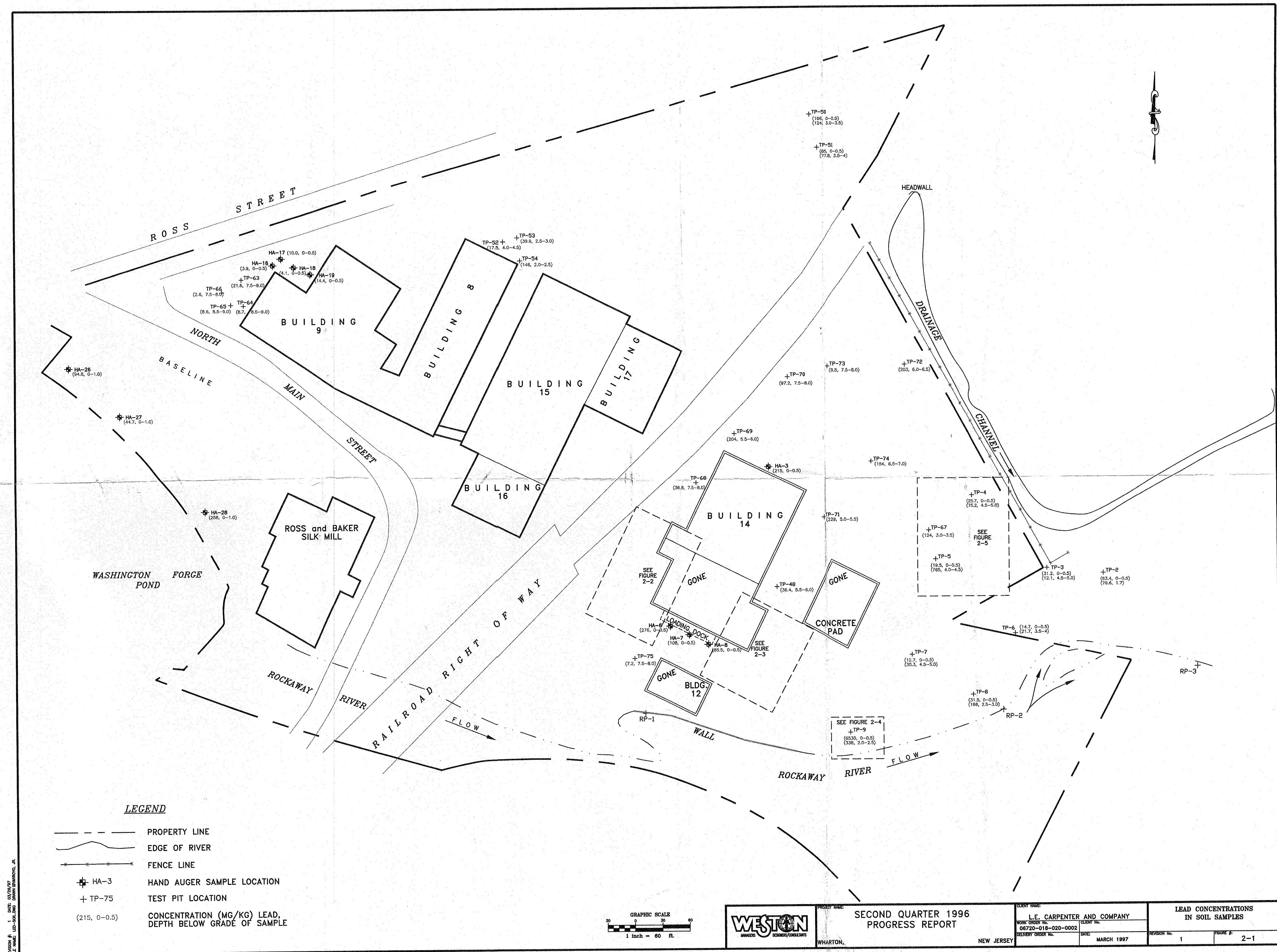
APPENDIX A

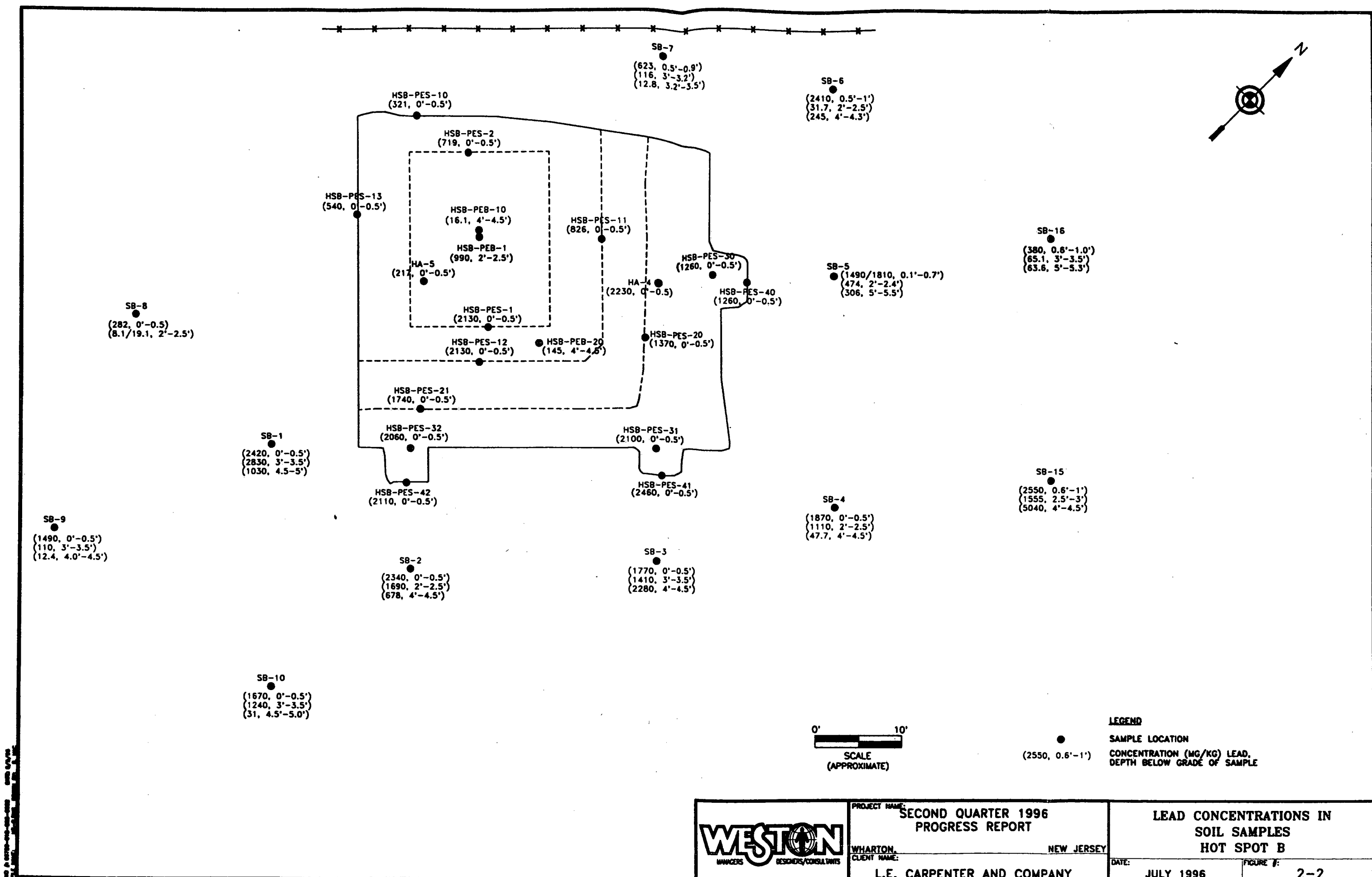
FIGURES

APPENDIX A

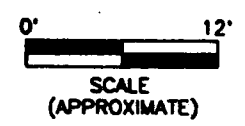
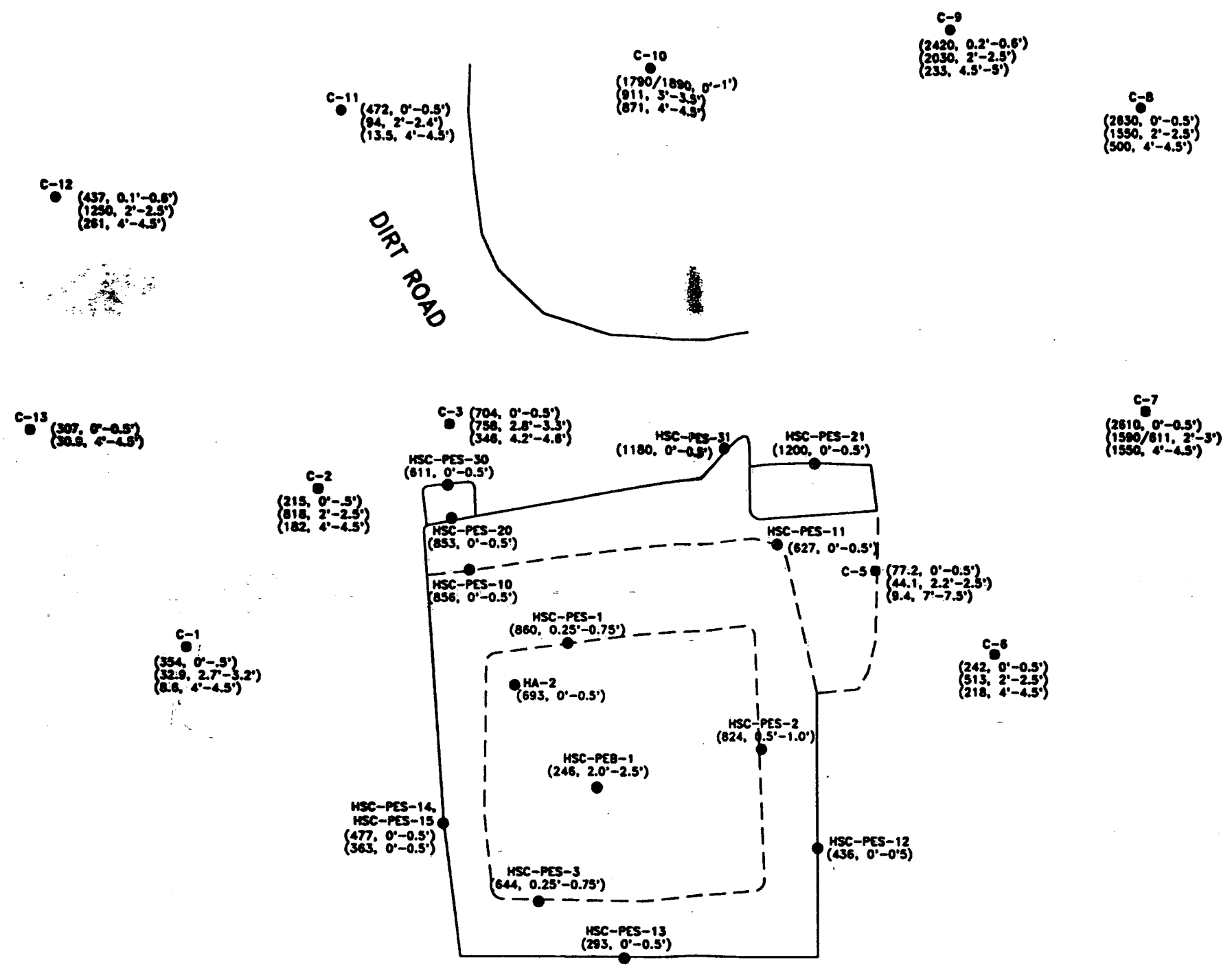
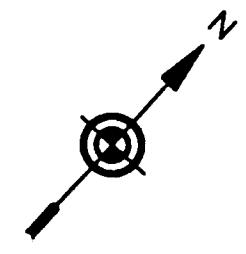
LIST OF FIGURES

<u>Figure No.</u>	<u>Title</u>	<u>Page</u>
2-1	Lead Concentrations in Soil Samples	A-1
2-2	Lead Concentrations in Soil Samples, Hot Spot B	A-2
2-3	Lead Concentrations in Soil Samples, Hot Spot C	A-3
2-4	Lead Concentrations in Soil Samples, Hot Spot D	A-4
2-5	Lead Concentrations in Soil Samples, Waste Disposal Area	A-5
2-6	Hot Spot 1 Delineation Sampling Locations and Analytical Results	A-6
2-7	MW-19 Delineation Sampling Locations and Analytical Results	A-7
2-8	Geologic Cross Section A-A', Vicinity of Hot Spot and MW-19	A-8
2-9	Hot Spot 4 Delineation Sample Locations and Results	A-9
3-1	Monitoring Well Locations	A-10
3-2	Percolation Test/Test Boring Locations	A-11
3-3	Equipotential Map of Shallow Aquifer Zone Measured on 13 June 1996	A-12
3-4	Equipotential Map of Intermediate Aquifer Zone Measured on 13 June 1996	A-13
3-5	Isopach Map of Product Thickness Measured on 13 June 1996	A-14
4-1	Proposed Sampling Locations MW-19 Delineation	A-15





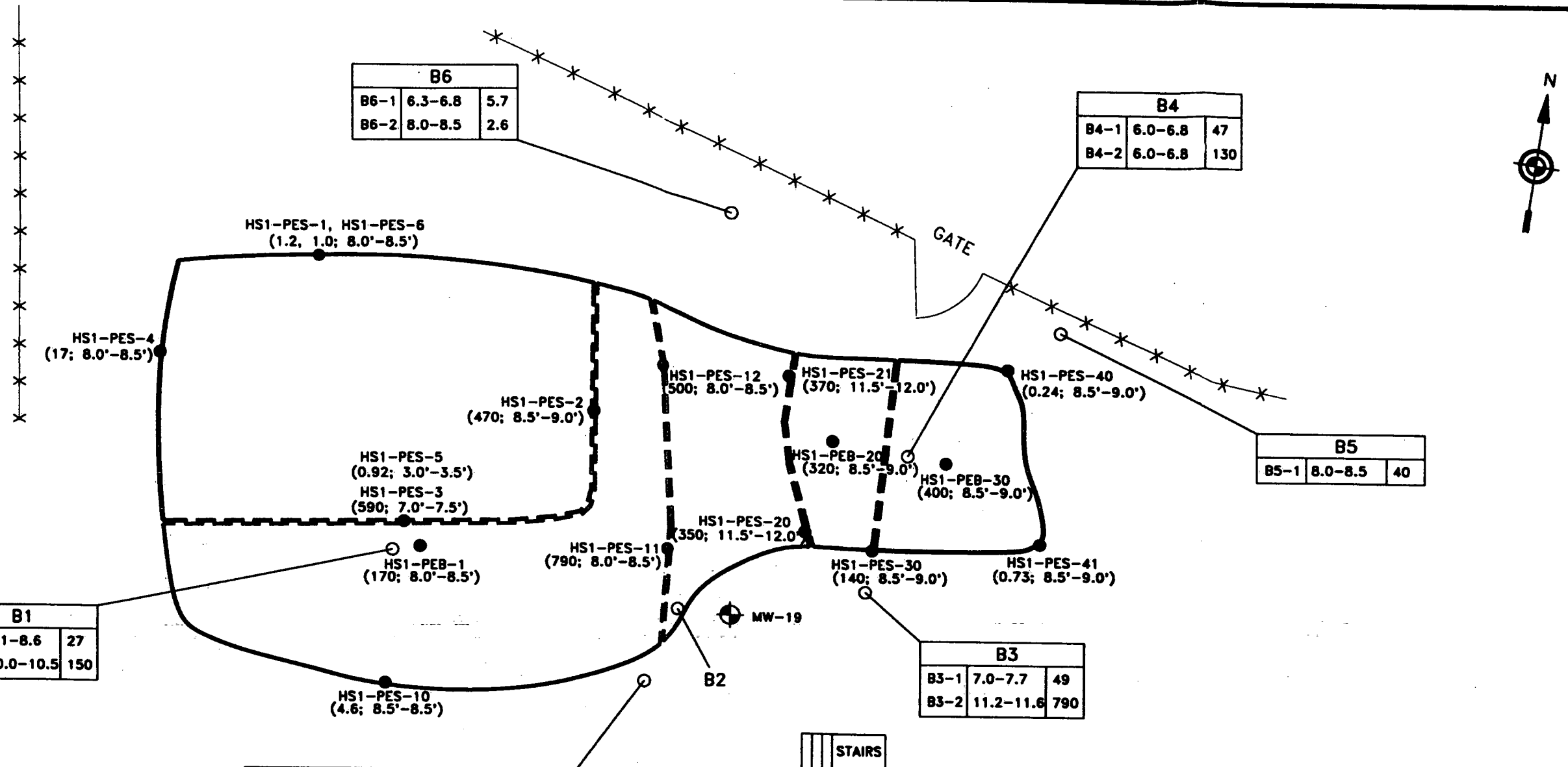
	PROJECT NAME: SECOND QUARTER 1996 PROGRESS REPORT	LEAD CONCENTRATIONS IN SOIL SAMPLES HOT SPOT B
	WHARTON, NEW JERSEY CLIENT NAME: L.E. CARPENTER AND COMPANY	DATE: JULY 1996
	FIGURE J: 2-2	



LEGEND

● SAMPLE LOCATION
(1180, 0'-0.5')
CONCENTRATION (MG/KG) LEAD,
DEPTH BELOW GRADE OF SAMPLE

 MANAGERS DESIGNERS/CONSULTANTS	PROJECT NAME: SECOND QUARTER 1996 PROGRESS REPORT	LEAD CONCENTRATIONS IN SOIL SAMPLES HOT SPOT C	
	WHARTON, NEW JERSEY CLIENT NAME: L.E. CARPENTER AND COMPANY		
	DATE: JULY 1996		FIGURE #: 2-3



LEGEND

- EXCAVATED 11/30/94
- EXCAVATED 12/6/94
- EXCAVATED 12/12/94
- EXCAVATED 12/16/94
- EXCAVATED 12/20/94
- MONITORING WELL
- POST EXCAVATION SAMPLING LOCATION
- HOT SPOT 1 DELINEATION BORING

(4.6; 8.0'-8.5') CONCENTRATION OF BIS(2-ETHYLHEXYL)PHTHALATE (DEHP)
PRESENTED IN MILLIGRAMS PER KILOGRAM (MG/KG);
SAMPLE DEPTH INTERVAL PRESENTED IN FEET BELOW GRADE

SAMPLE DESIGNATION

B5	8.0-8.5	40
----	---------	----

DELINITION SOIL BORING DESIGNATION

ANALYTICAL RESULT IN MG/KG

SAMPLE DEPTH

MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME: SECOND QUARTER 1996 PROGRESS REPORT

WHARTON, NEW JERSEY

CLIENT NAME: L.E. CARPENTER AND COMPANY

HOT SPOT 1 DELINEATION SAMPLING LOCATIONS AND ANALYTICAL RESULTS

DATE: JULY 1996

FIGURE 7: 2-6

ROCKAWAY RIVER

FLOW

FENCE

HSD-PES-1, HSD-PES-4
(151, 0.25-0.75), (151, 0.25-0.75)

+
TP-9
(6530, 0-0.5)
(338, 2.0-2.5)

● HSD-PES-1
(92.6, 2.0-2.5)

● HSD-PES-2
(69.9, 0.25-0.75)

● HSD-PES-3
(338, 0.25-0.75)

MW-9

4.5'

6'

LEGEND

● POST EXCAVATION SAMPLING LOCATION

+ TEST PIT SAMPLING LOCATION

(19.5, 0-0.5) CONCENTRATION (MG/KG) LEAD,
DEPTH BELOW GRADE OF SAMPLE

0' 4'
SCALE
(APPROXIMATE)

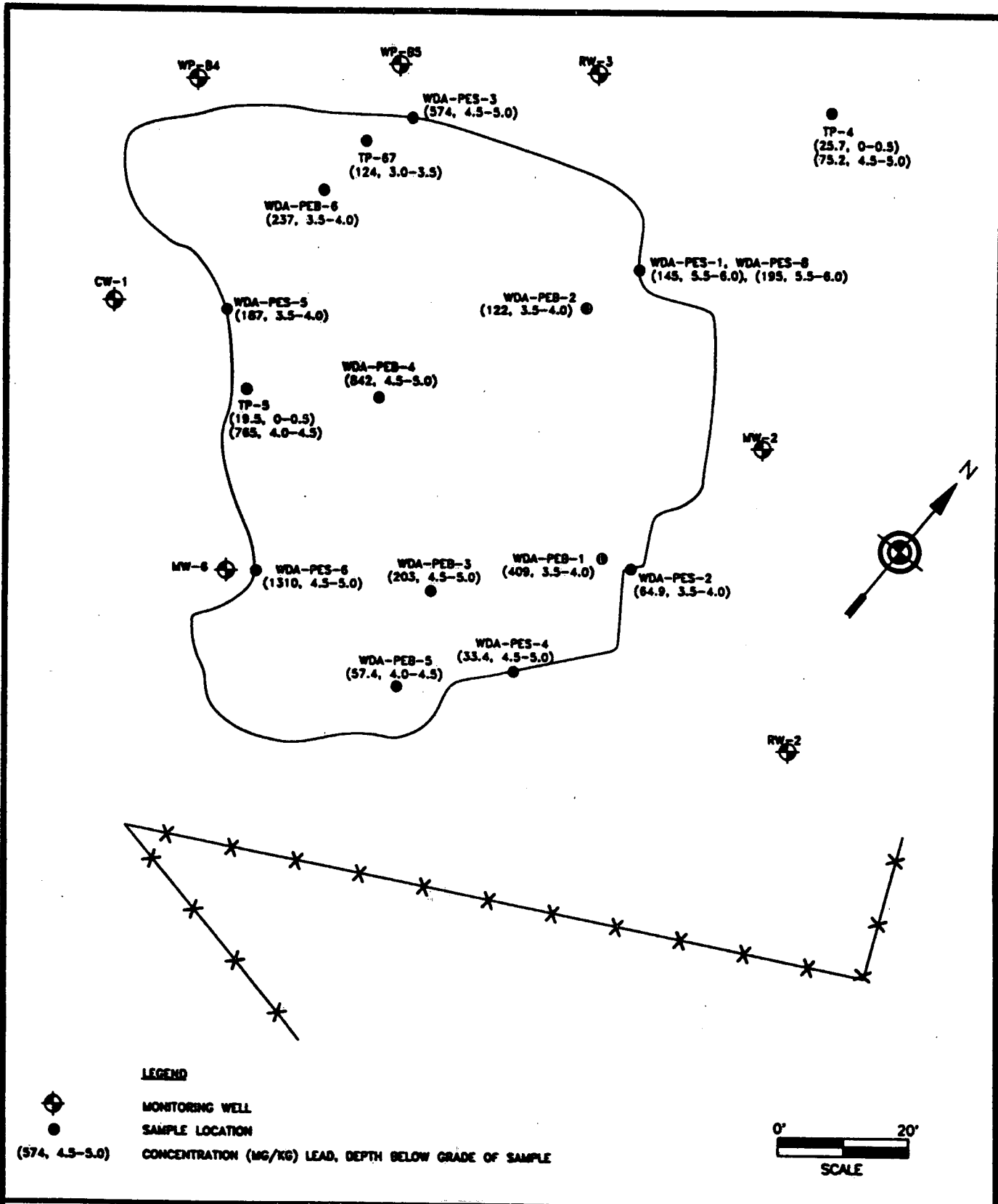


PROJECT NAME:
**SECOND QUARTER 1996
PROGRESS REPORT**
WHARTON, NEW JERSEY
CLIENT NAME:
L.E. CARPENTER AND COMPANY

**LEAD CONCENTRATIONS
IN SOIL SAMPLES
HOT SPOT D**

DATE: **JULY 1996** FIGURE #: **2-4**

W.D. P. 03725-030-001-0000-00 DATE: 6/1/96
FILE NAME: HOT-SPOT D.DWG (PRINTED BY: B. MC)



U.S. P. 00720-010-0000 DATE: 8/7/96
 FILE NAME: WDA-PES-0000.DWG
 WDA-PES-0000.DWG

WESTON ENGINEERS DESIGNERS/CONSULTANTS	PROJECT NAME: SECOND QUARTER 1996 PROGRESS REPORT WHARTON, NEW JERSEY CLIENT NAME: L.E. CARPENTER AND COMPANY	LEAD CONCENTRATIONS IN SOIL SAMPLES WASTE DISPOSAL AREA DATE: JULY 1996 FIGURE F: 2-5
--	--	--

BW-2	
COMPOUND	RESULT (UG/L)
TOLUENE	200,000
ETHYLBENZENE	7,600
XYLENE (TOTAL)	41,000

BW-4	
COMPOUND	RESULT (UG/L)
TOLUENE	200,000
ETHYLBENZENE	7,600
XYLENE (TOTAL)	38,000

BW-5	
COMPOUND	RESULT (UG/L)
TOLUENE	4J
ETHYLBENZENE	SU
XYLENE (TOTAL)	1J

BW-6	
COMPOUND	RESULT (UG/L)
TOLUENE	SU
ETHYLBENZENE	SU
XYLENE (TOTAL)	SU

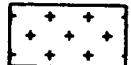





BW-7	
COMPOUND	RESULT (UG/L)
TOLUENE	1J
ETHYLBENZENE	SU
XYLENE (TOTAL)	SU

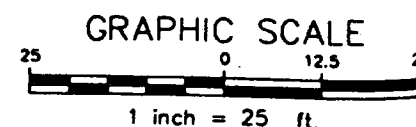
BW-1; BW-11 (DUP)	
COMPOUND	RESULT (UG/L)
TOLUENE	SU; SU
ETHYLBENZENE	SU; SU
XYLENE (TOTAL)	SU; SU

BW-3	
COMPOUND	RESULT (UG/L)
TOLUENE	3J
ETHYLBENZENE	SU
XYLENE (TOTAL)	SU

BW-9	
COMPOUND	RESULT (UG/L)
TOLUENE	SU
ETHYLBENZENE	SU
XYLENE (TOTAL)	SU

BW-8	
COMPOUND	RESULT (UG/L)
TOLUENE	SU
ETHYLBENZENE	SU
XYLENE (TOTAL)	SU

- LEGEND**
-  APPROXIMATE EXTENT OF HOT SPOT 1
 -  LINE OF GEOLOGIC CROSS-SECTION A-A'
 -  MW-19 DELINEATION SOIL BORING/
GROUNDWATER SCREENING LOCATION
 -  HOT SPOT 1 DELINEATION SOIL BORING
 -  PIEZOMETER LOCATION
 -  MONITORING WELL LOCATION



PROJECT NAME: SECOND QUARTER 1996
PROGRESS REPORT

WHARTON, NEW JERSEY
CLIENT NAME: L.E. CARPENTER

MW-19 DELINEATION
SAMPLING LOCATIONS AND
ANALYTICAL RESULTS MAP

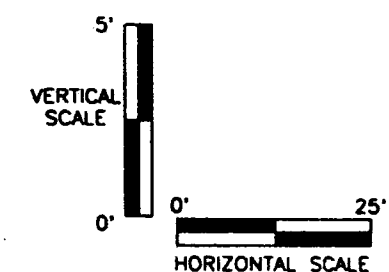
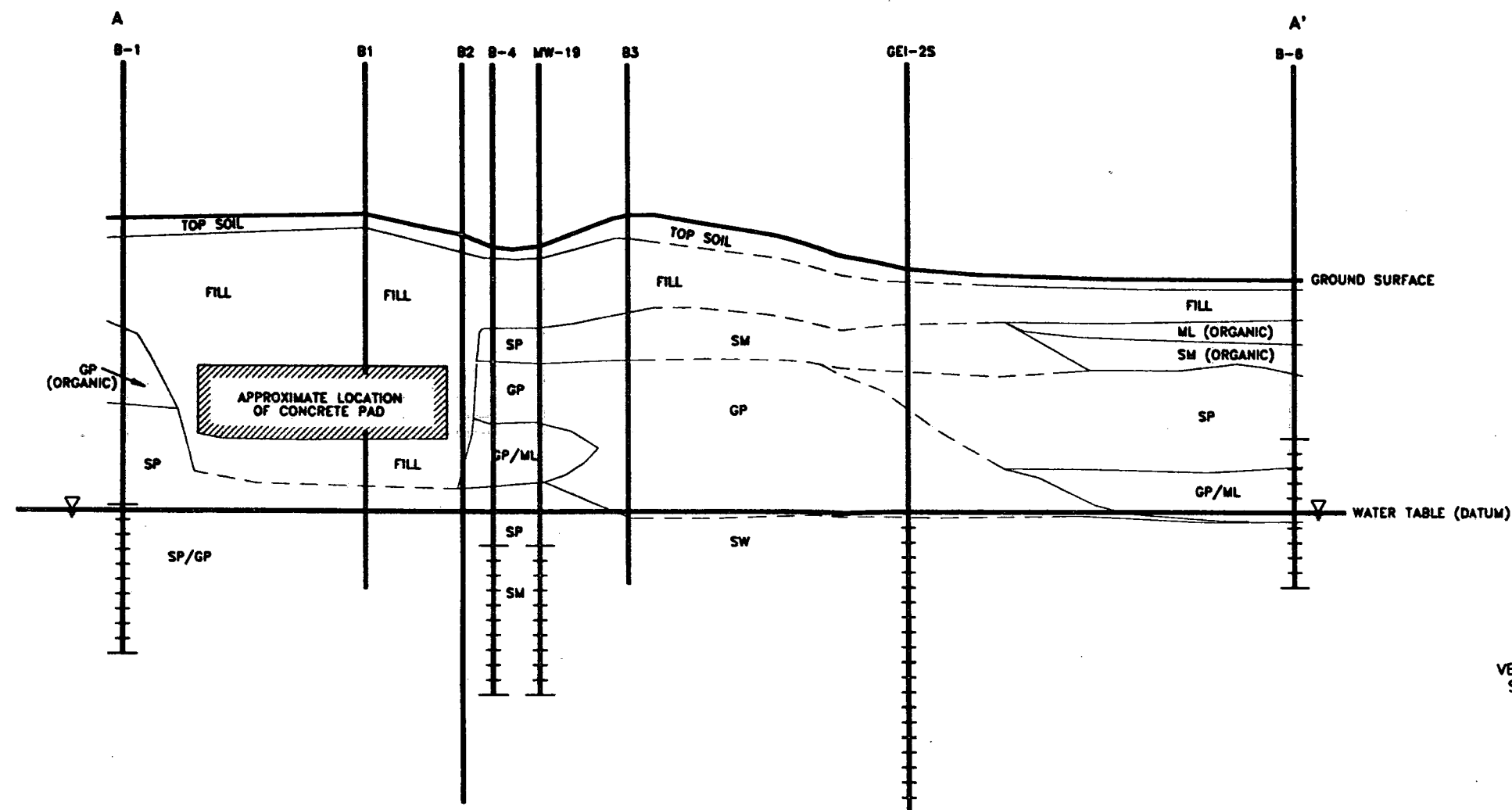
DATE: JULY 1996

FIGURE #: 2-7

NOTES

ANALYTICAL RESULTS OF SOIL SAMPLES COLLECTED AS PART OF THE MW-19 DELINEATION INDICATED THAT THERE ARE NO CHEMICAL CONSTITUENTS OF CONCERN IN THIS PORTION OF THE SITE'S SOILS.

UG/L DENOTES MICROGRAMS PER LITER.



LEGEND



SCREENED INTERVALS IN TEMPORARY
WELL POINTS AND MONITORING WELLS

--- GEOLOGIC CONTACTS (DASHED WHERE INFERRED)

NOTE: STRATIGRAPHIC SEQUENCE AT MW-19 AND GEI-25 ARE
BASED ON NEARBY SECOND QUARTER, 1996 SOIL BORING DATA.

SCALES

HORIZONTAL
VERTICAL
VERTICAL EXAGGERATION
DATUM

1" = 25'

1" = 5'

SX

WATER TABLE: MAY 1996
(BASED ON DEPTH TO WATER READINGS
IN TEMPORARY WELL POINTS AND
MONITORING WELL MW-19 AND GEI-25)



PROJECT NAME:
SECOND QUARTER 1996
PROGRESS REPORT

WHARTON, NEW JERSEY

CLIENT NAME:

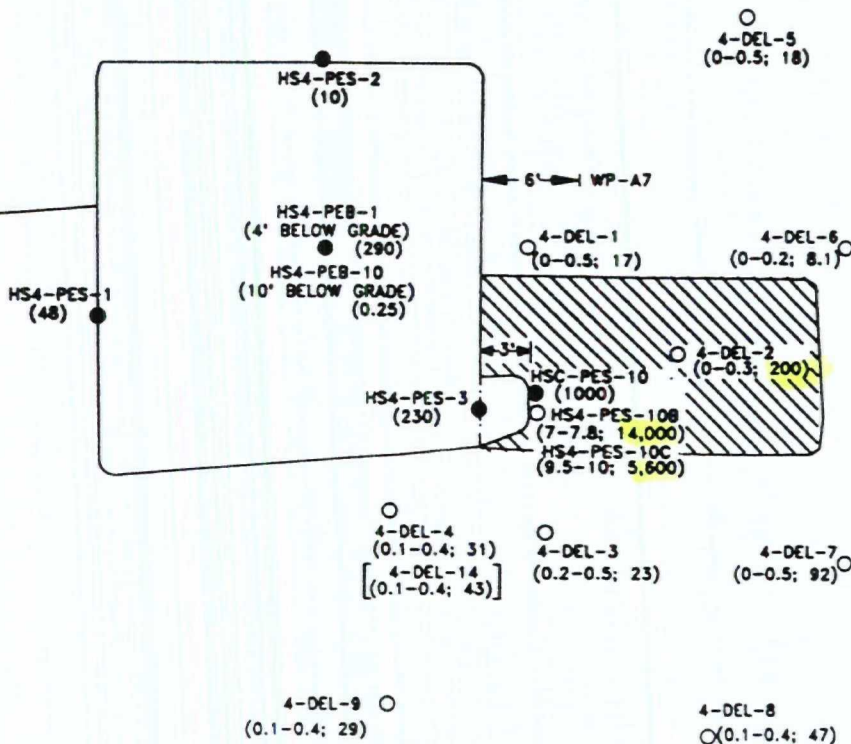
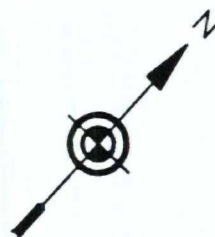
L.E. CARPENTER

GEOLOGIC CROSS SECTION A-A'
VICINITY OF HOT SPOT 1
AND MW-19

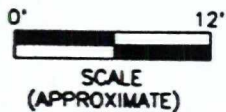
DATE:
JULY 1996

FIGURE #:
2-8

DIRT ROAD



NOTE:
4-DEL-14 IS A DUPLICATE
OF 4-DEL-4.



LEGEND



APPROXIMATE AREA
TO BE EXCAVATED



PROPOSED DELINEATION SAMPLE LOCATION



POST EXCAVATION SAMPLE LOCATION

(0-0.5; 730)

SAMPLE DEPTH PRESENTED IN FEET,
AND CONCENTRATIONS PRESENTED IN
MILLIGRAMS PER KILOGRAM (MG/KG) OF
BIS(2-ETHYLHEXYL)PHTHALATE (DEHP)



PROJECT NAME:

SECOND QUARTER 1996
PROGRESS REPORT

WHARTON,
CLIENT NAME:

NEW JERSEY

L.E. CARPENTER AND COMPANY

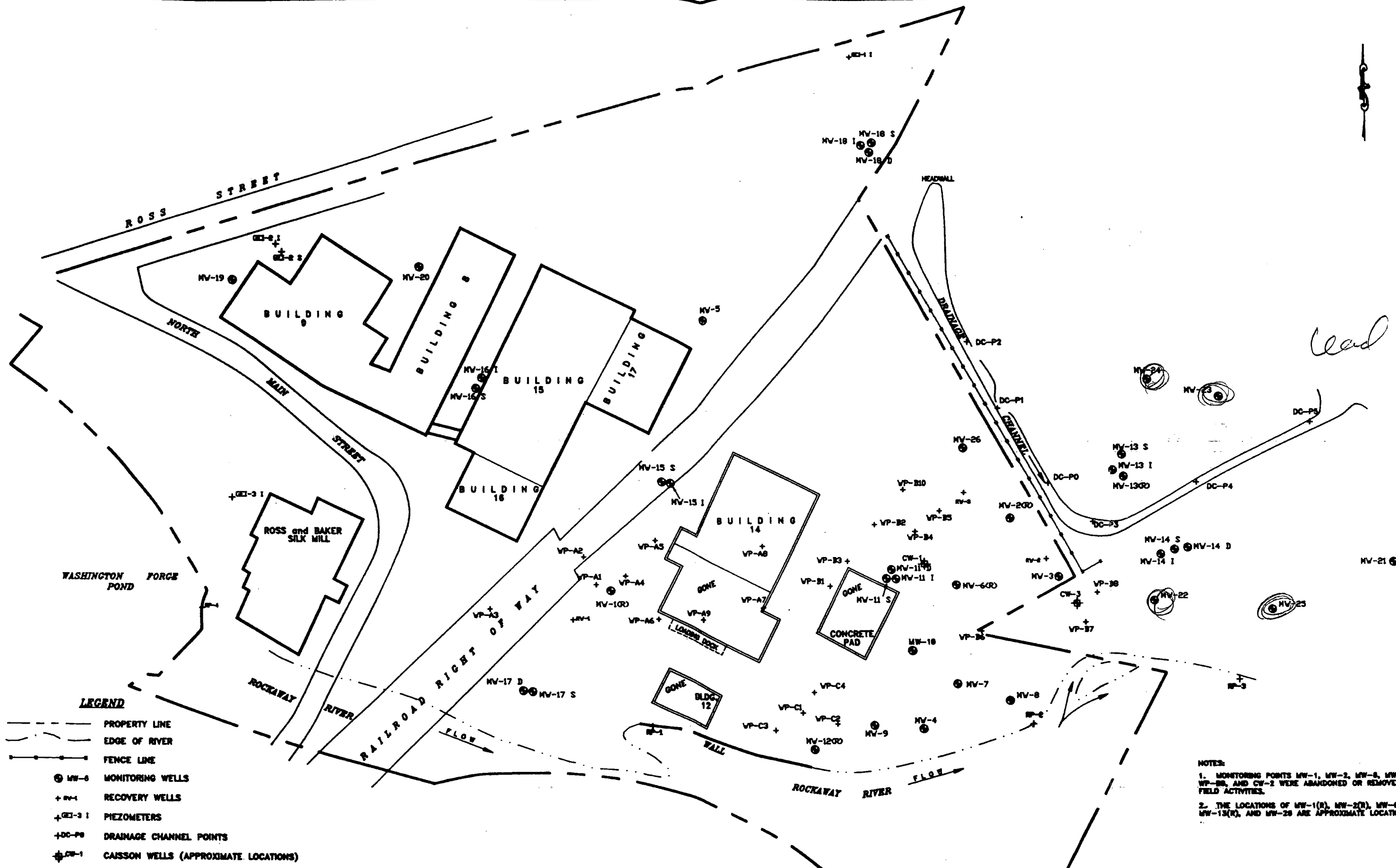
DELINEATION SAMPLE
LOCATIONS AND RESULTS
HOT SPOT 4

DATE:

JULY 1996

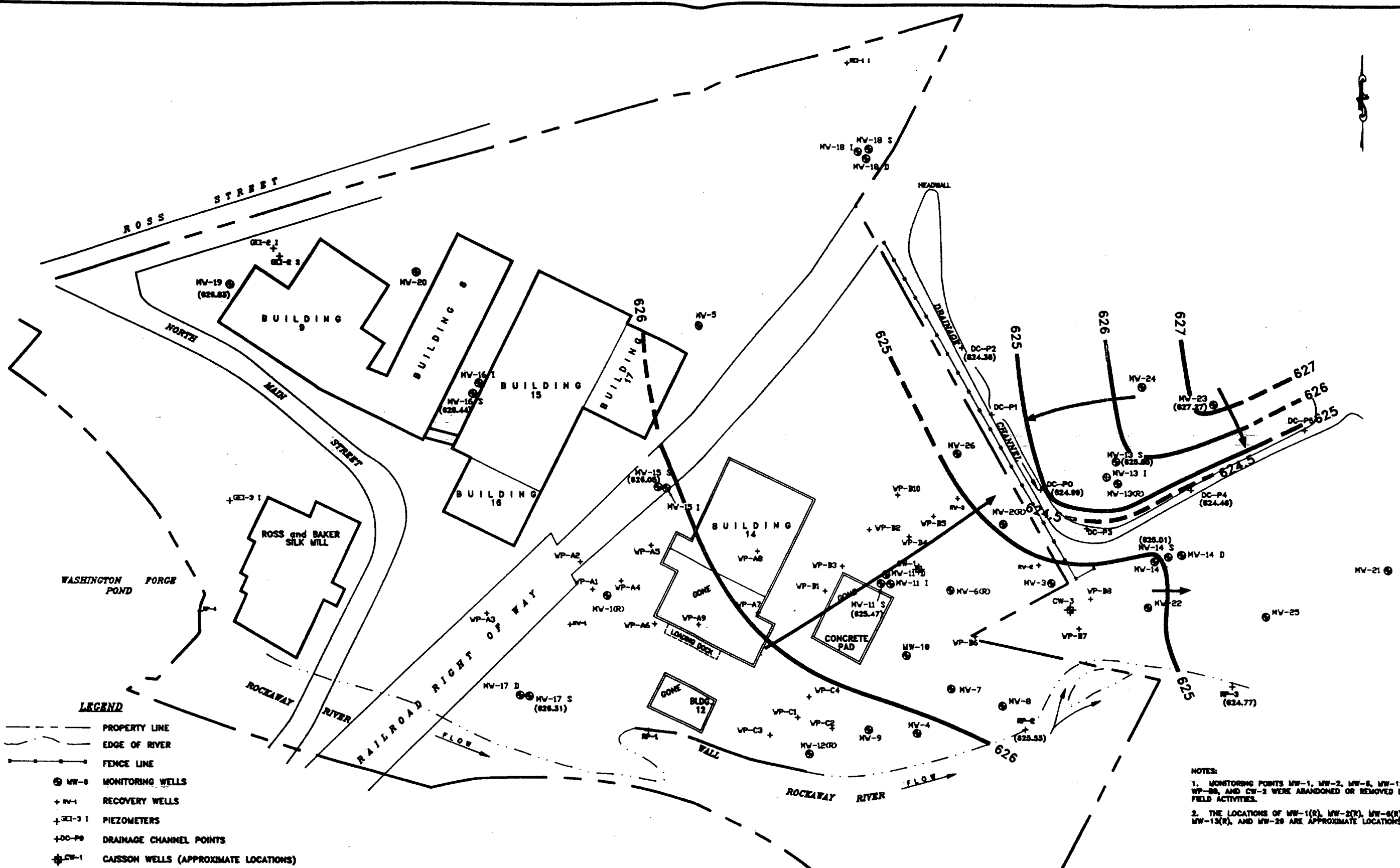
FIGURE 7:

2-9



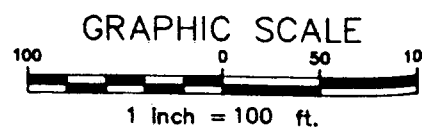
PROJECT NAME: SECOND QUARTER 1996
PROGRESS REPORT
WHARTON, NEW JERSEY
CLIENT NAME: L.E. CARPENTER AND COMPANY

MONITORING WELL LOCATIONS
DATE: JULY 1996
FIGURE #: 3-1



LEGEND

- PROPERTY LINE
- EDGE OF RIVER
- FENCE LINE
- ⊙ MW-6 MONITORING WELLS
- + MV-1 RECOVERY WELLS
- + SEI-3 1 PIEZOMETERS
- + DC-P0 DRAINAGE CHANNEL POINTS
- + CW-1 CAISSON WELLS (APPROXIMATE LOCATIONS)
- + RP-2 RIVER POINTS
- + VP-B10 WELL POINTS
- 626 GROUNDWATER CONTOUR ELEVATION (1.0 FOOT INTERVAL)
(DASHED WHERE INFERRED)
- 626.00 CORRECTED WATER LEVEL AT MONITORING POINT
(FEET ABOVE M.S.L.)



- NOTES:**
1. MONITORING POINTS MW-1, MW-2, MW-6, MW-12S, MW-12L, VP-08, AND CW-2 WERE ABANDONED OR REMOVED DURING RECENT FIELD ACTIVITIES.
 2. THE LOCATIONS OF MW-1(R), MW-2(R), MW-6(R), MW-12(R), MW-13(R), AND MW-26 ARE APPROXIMATE LOCATIONS.

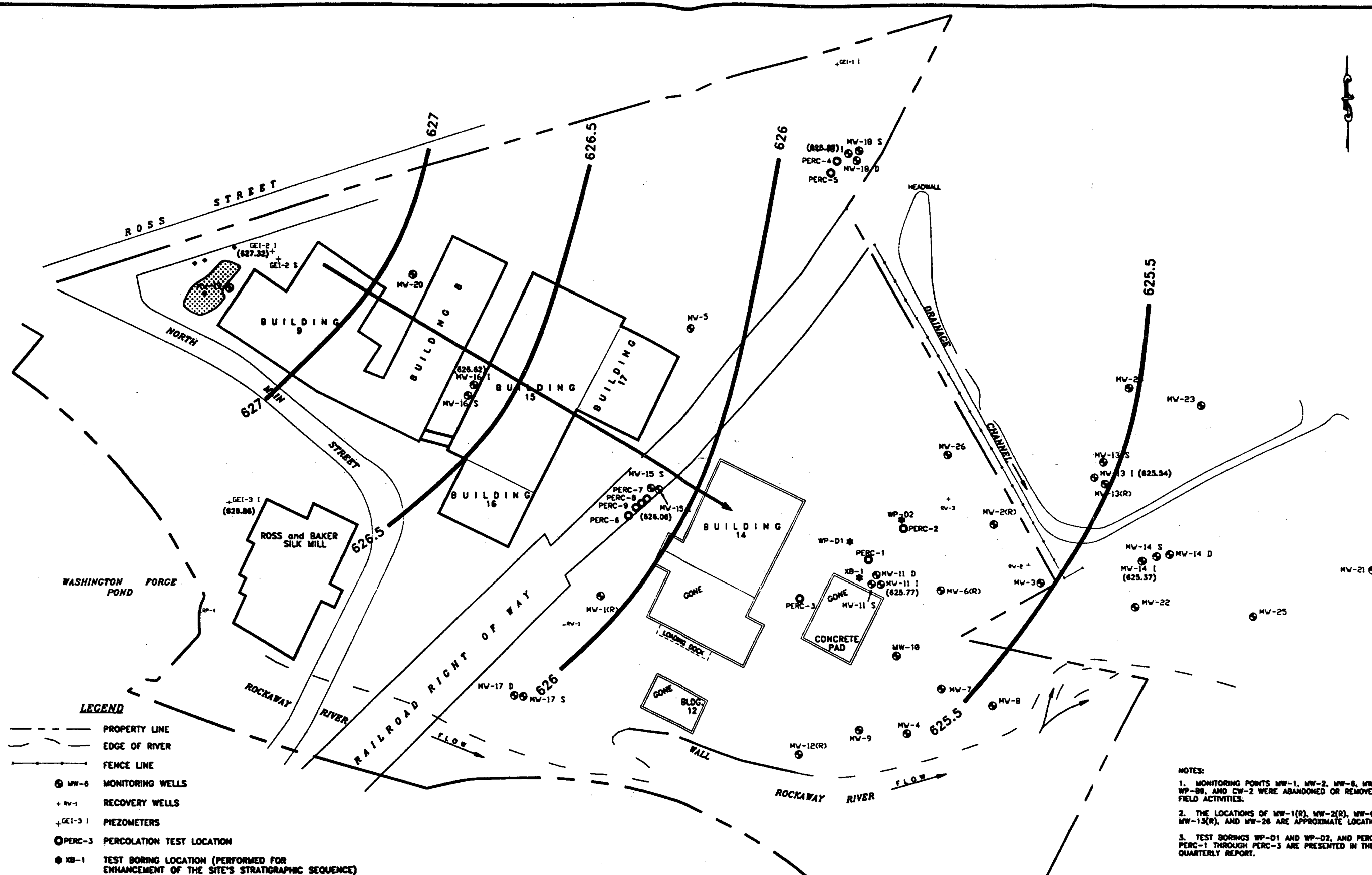


PROJECT NAME: SECOND QUARTER 1996
PROGRESS REPORT

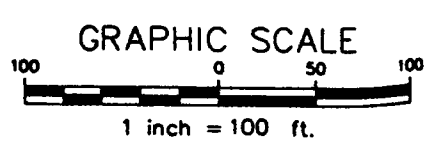
WHARTON, NEW JERSEY
CLIENT NAME: L.E. CARPENTER AND COMPANY

EQUIPOTENTIAL MAP OF
SHALLOW AQUIFER ZONE
MEASURED ON 6/13/96

DATE: JULY 1996
FIGURE #: 3-3



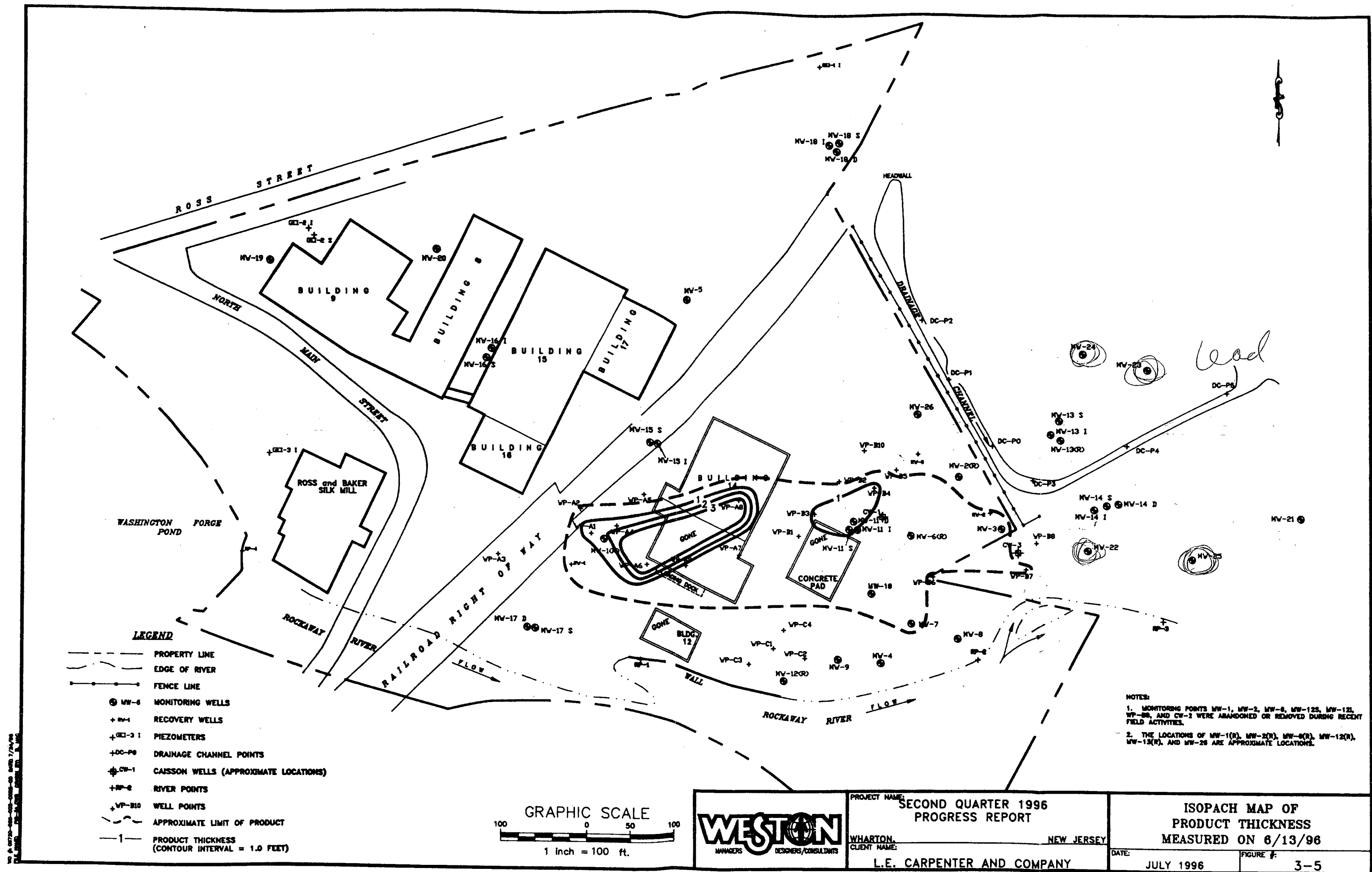
- LEGEND**
- PROPERTY LINE
 - - - EDGE OF RIVER
 - FENCE LINE
 - ⊕ MW-6 MONITORING WELLS
 - + RV-1 RECOVERY WELLS
 - + GEI-3 1 PIEZOMETERS
 - ⊙ PERC-3 PERCOLATION TEST LOCATION
 - ⊕ XB-1 TEST BORING LOCATION (PERFORMED FOR ENHANCEMENT OF THE SITE'S STRATIGRAPHIC SEQUENCE)
 - 626 GROUNDWATER CONTOUR ELEVATION (0.5 FOOT INTERVAL) (DASHED WHERE INFERRED)
 - ⊕ CORRECTED WATER LEVEL AT MONITORING POINT (FEET ABOVE M.S.L.)

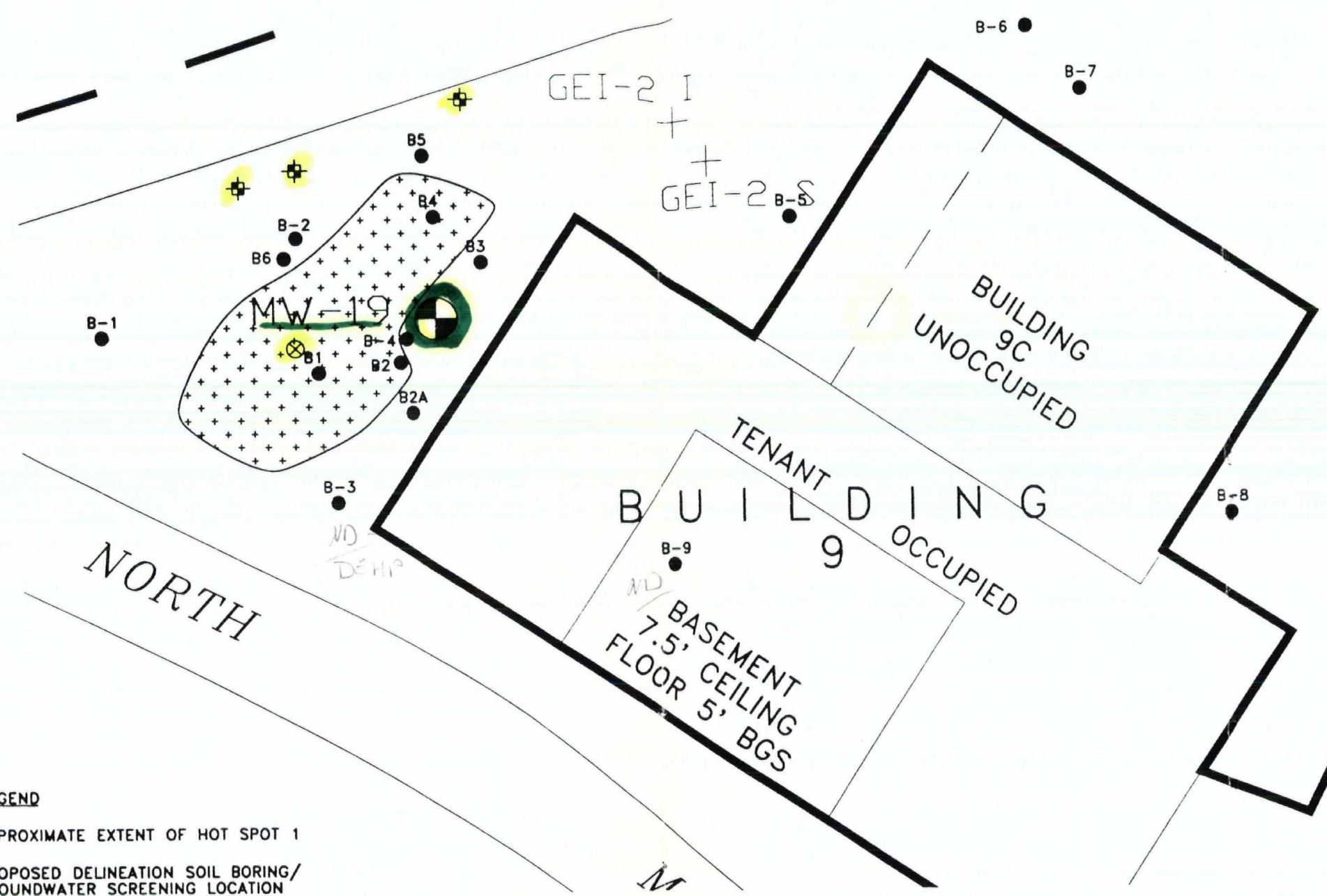


- NOTES:**
1. MONITORING POINTS MW-1, MW-2, MW-6, MW-12S, MW-12I, WP-8S, AND CW-2 WERE ABANDONED OR REMOVED DURING RECENT FIELD ACTIVITIES.
 2. THE LOCATIONS OF MW-1(R), MW-2(R), MW-8(R), MW-12(R), MW-13(R), AND MW-26 ARE APPROXIMATE LOCATIONS.
 3. TEST BORINGS WP-01 AND WP-02, AND PERCOLATION TESTS PERC-1 THROUGH PERC-3 ARE PRESENTED IN THE APRIL 1995 QUARTERLY REPORT.

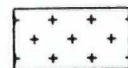
<p>MANAGERS DESIGNERS/CONSULTANTS</p>	PROJECT NAME: SECOND QUARTER 1996 PROGRESS REPORT	EQUIPOTENTIAL MAP OF INTERMEDIATE AQUIFER ZONE MEASURED ON 6/13/96	
	WHARTON, NEW JERSEY CLIENT NAME: L.E. CARPENTER AND COMPANY		DATE: JULY 1996
	FIGURE #: 3-4		

100 0 50 100
 1 inch = 100 ft.
 100 0 50 100
 1 inch = 100 ft.





LEGEND



APPROXIMATE EXTENT OF HOT SPOT 1



PROPOSED DELINEATION SOIL BORING/
GROUNDWATER SCREENING LOCATION



PROPOSED MONITORING WELL LOCATION



MW-19 DELINEATION SOIL BORING/
GROUNDWATER SCREENING LOCATION



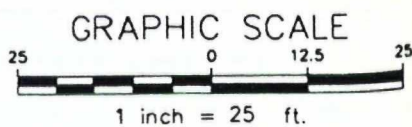
HOT SPOT 1 DELINEATION SOIL BORING



PIEZOMETER LOCATION



MONITORING WELL LOCATION



PROJECT NAME:	SECOND QUARTER 1996 PROGRESS REPORT
WHARTON, CLIENT NAME:	NEW JERSEY L.E. CARPENTER

PROPOSED SAMPLING LOCATIONS MW-19 DELINEATION	
DATE:	JULY 1996
FIGURE #:	4-1



APPENDIX B

TABLES

APPENDIX B
LIST OF TABLES

<u>Table No.</u>	<u>Title</u>
2-1	Summary of Soil Sampling Activities, Hot Spot B
2-2	Analytical Results Summary for Soils, Hot Spot B
2-3	Summary of Soil Sampling Activities, Hot Spot C
2-4	Analytical Results Summary for Soils, Hot Spot C
2-5	Summary of Soil Sampling Activities, Hot Spot 1
2-6	Analytical Results Summary for Soils, Hot Spot 1
2-7	Summary of Soil Sampling Activities, Hot Spot 4
2-8	Analytical Results Summary for Soils, Hot Spot 4
2-9	Summary of Soil Sampling Activities, MW-19 Delineation
2-10	Analytical Results Summary for Soils, MW-19 Delineation
3-1	Summary of Lead in Groundwater Analytical Results
3-2	Summary of Groundwater Screening Sampling Activities, MW-19 Delineation
3-3	Analytical Results Summary for Groundwater, MW-19 Delineation
3-4	Second Quarter Analytical Results, BTEX
3-5	Second Quarter Analytical Results, DEHP
3-6	Water Level Measurements Taken on 9 May 1996 During Step One of the Percolation Tests
3-7	Water Level Measurements Taken on 9 May 1996 During Step Two of the Percolation Tests
3-8	Second Quarter Sample Summary

Table 2-1
Summary of Soil Sampling Activities
L.E. Carpenter, Wharton, New Jersey
Hot Spot B

SOIL BORING DESIGNATION	SAMPLE DESIGNATION	SAMPLE DATE	SAMPLE DEPTH	SAMPLE PARAMETERS
SB-1	SB-1-A	5/15/96	0-0.5	Pb
SB-1	SB-1-B	5/15/96	3.0-3.5	Pb
SB-1	SB-1-C	5/15/96	4.5-5.0	Pb
SB-2	SB-2-A	5/15/96	0-0.5	Pb
SB-2	SB-2-B	5/15/96	2.0-2.5	Pb
SB-2	SB-2-C	5/15/96	4.0-4.5	Pb
SB-3	SB-3-A	5/15/96	0-0.5	Pb
SB-3	SB-3-B	5/15/96	3.0-3.5	Pb
SB-3	SB-3-C	5/15/96	4.0-4.5	Pb
SB-4	SB-4-A	5/15/96	0-0.5	Pb
SB-4	SB-4-B	5/15/96	2.0-2.5	Pb
SB-4	SB-4-C	5/15/96	4.0-4.5	Pb
SB-5	SB-5-A	5/16/96	0.1-0.7	Pb
SB-5	SB-5-B (duplicate)	5/16/96	0.1-0.7	Pb
SB-5	SB-5-C	5/16/96	2.0-2.4	Pb
SB-5	SB-5-D	5/16/96	5.0-5.5	Pb
SB-6	SB-6-A	5/16/96	0.5-1	Pb
SB-6	SB-6-B	5/16/96	2.0-2.5	Pb
SB-6	SB-6-C	5/16/96	4.0-4.3	Pb
SB-7	SB-7-A	5/16/96	0.5-0.9	Pb
SB-7	SB-7-B	5/16/96	3.0-3.2	Pb
SB-7	SB-7-C	5/16/96	3.2-3.5	Pb
SB-8	SB-8-A	5/15/96	0-0.5	Pb
SB-8	SB-8-B	5/15/96	2.0-2.5	Pb
SB-8	SB-8-C (duplicate)	5/15/96	2.0-2.5	Pb
SB-9	SB-9-A	5/15/96	0-0.5	Pb
SB-9	SB-9-B	5/15/96	3.0-3.5	Pb
SB-9	SB-9-C	5/15/96	4.0-4.5	Pb
SB-10	SB-10-A	5/15/96	0-0.5	Pb
SB-10	SB-10-B	5/15/96	3.0-3.5	Pb
SB-10	SB-10-C	5/15/96	4.5-5.0	Pb
SB-15	SB-15-A	5/16/96	0.6-1.0	Pb
SB-15	SB-15-B	5/16/96	2.5-3.0	Pb
SB-15	SB-15-C	5/16/96	4.0-4.5	Pb
SB-16	SB-16-A	5/16/96	0.6-1.0	Pb
SB-16	SB-16-B	5/16/96	2.5-3.0	Pb
SB-16	SB-16-C	5/16/96	4.0-4.5	Pb
NA	FB-05S ⁽¹⁾	5/15/96	NA	Pb
NA	FB-06S ⁽¹⁾	5/16/96	NA	Pb

Notes:

Sample depth is presented in feet below grade.

NA - Not Applicable

Sample SB-5-B is a duplicate sample of SB-5-A.

Sample SB-8-C is a duplicate sample of SB-8-B.

(1) FB - Field Blank

Table 2-2
Analytical Results Summary for Soils
Lead (mg/kg)
L.E. Carpenter, Wharton, New Jersey
Hot Spot B

Sample ID	Sample Date	Lab sample ID	Sample Depth	Soil Type	Result	Qualifier
SB-1-A	05/15/96	9605G266-001	0-0.5	SM (Fill)	2420 (1)	
SB-1-B	05/15/96	9605G266-002	3-3.5	SM (Fill)	2830	
SB-1-C	05/15/96	9605G266-003	4.5-5	SM (Fill)	1030	
SB-2-A	05/15/96	9605G266-004	0-0.5	SM (Fill)	2340	
SB-2-B	05/15/96	9605G266-005	2-2.5	SM (Fill)	1690	
SB-2-C	05/15/96	9605G266-006	4-4.5	ML (Fill)	670	
SB-3-A	05/15/96	9605G266-007	0-0.5	SM (Fill)	1770	
SB-3-B	05/15/96	9605G266-008	3-3.5	SM (Fill)	1510	
SB-3-C	05/15/96	9605G266-009	4-4.5	SM (Fill)	2230	
SB-4-A	05/15/96	9605G266-010	0-0.5	SP (Fill)	1370	
SB-4-B	05/15/96	9605G266-011	2-2.5	SP (Fill)	1110	
SB-4-C	05/15/96	9605G266-012	4-4.5	ML	47.7	
SB-5-A	05/16/96	9605G288-016	0.1-0.7	SM (Fill)	1390	
SB-5-B (duplicate)	05/16/96	9605G288-012	0.1-0.7	SM (Fill)	1310	
SB-5-C	05/16/96	9605G288-015	2-2.4	SW (Fill)	474	
SB-5-D	05/16/96	9605G288-014	5-5.5	SW	306	
SB-6-A	05/16/96	9605G289-005	0.5-1	SP (Fill)	2410	
SB-6-B	05/16/96	9605G288-020	2-2.5	SP (Fill)	31.7	
SB-6-C	05/16/96	9605G288-018	4-4.3	SP (Fill)	245	
SB-7-A	05/16/96	9605G289-003	0.5-0.9	SW (Fill)	623	
SB-7-B	05/16/96	9605G289-002	3-3.2	SP (Fill)	116	
SB-7-C	05/16/96	9605G289-004	3.2-3.5	SP (Fill)	12.8	
SB-8-A	05/15/96	9605G266-014	0-0.5	SW	282	
SB-8-B	05/15/96	9605G266-015	2-2.5	ML	8.1	
SB-8-C (duplicate)	05/15/96	9605G266-016	2-2.5	ML	19.1	
SB-9-A	05/15/96	9605G266-017	0-0.5	SM (Fill)	1390	
SB-9-B	05/15/96	9605G266-018	3.0-3.5	SM (Fill)	110	
SB-9-C	05/15/96	9605G266-019	4.0-4.5	SM	12.4	
SB-10-A	05/15/96	9605G266-020	0-0.5	SM (Fill)	1670	
SB-10-B	05/15/96	9605G266-021	3-3.5	SM (Fill)	1240	
SB-10-C	05/15/96	9605G266-022	4.5-5	SM (Fill)	31 (1)	
SB-15-A	05/16/96	9605G288-002	0.6-1	SP (Fill)	2550 (1)	
SB-15-B	05/16/96	9605G289-001	2.5-3	SM (Fill)	1565 (1)	
SB-15-C	05/16/96	9605G288-017	4-4.5	SM	5040	
SB-16-A	05/16/96	9605G288-019	0.6-1.0	SW (Fill)	380	
SB-16-B	05/16/96	9605G288-013	3-3.5	GM/ML	65.1	
SB-16-C	05/16/96	9605G288-003	5-5.3	GP/ML	63.6	
FB-05S*	05/15/96	9605G266-013	NA	NA	19.5	U
FB-06S*	05/16/96	9605G288-001	NA	NA	19.5 (1)	U

Notes:

Sample depth is presented in feet below grade.

NA -Not applicable.

U - Analyte was not detected at or above the reporting limit.

* - Field blank sample reported in microgram per liter (ug/l).

mg/kg - milligram per kilogram

█ - indicates an exceedance of the remedial goal of 600 mg/kg as specified in the ROD.

(1) Sample result is an average concentration of the original sample and the replicate sample run by the lab.

Table 2-3
Summary of Soil Sampling Activities
L.E. Carpenter, Wharton, New Jersey
Hot Spot C

SOIL BORING DESIGNATION	SAMPLE DESIGNATION	SAMPLE DATE	SAMPLE DEPTH	SAMPLE PARAMETERS
C-1	C-1-A	5/17/96	0-0.5	Pb
C-1	C-1-B	5/17/96	2.7-3.2	Pb
C-1	C-1-C	5/17/96	4.0-4.5	Pb
C-2	C-2-A	5/17/96	0-0.5	Pb
C-2	C-2-B	5/17/96	2.0-2.5	Pb
C-2	C-2-C	5/17/96	4.0-4.5	Pb
C-3	C-3-A	5/17/96	0-0.5	Pb
C-3	C-3-B	5/17/96	2.8-3.3	Pb
C-3	C-3-C	5/17/96	4.2-4.6	Pb
C-5	C-5-A	5/17/96	0-0.5	Pb
C-5	C-5-B	5/17/96	2.2-2.5	Pb
C-5	C-5-C	5/17/96	7.0-7.5	Pb
C-6	C-6-A	5/17/96	0-0.5	Pb
C-6	C-6-B	5/17/96	2.0-2.5	Pb
C-6	C-6-C	5/17/96	4.0-4.5	Pb
C-7	C-7-A	5/20/96	0-0.5	Pb
C-7	C-7-B	5/20/96	2.0-3.0	Pb
C-7	C-7-C (duplicate)	5/20/96	2.0-3.0	Pb
C-7	C-7-D	5/20/96	4.0-4.5	Pb
C-8	C-8-A	5/20/96	0-0.5	Pb
C-8	C-8-B	5/20/96	2.0-2.5	Pb
C-8	C-8-C	5/20/96	4.0-4.5	Pb
C-9	C-9-A	5/20/96	0.2-0.6	Pb
C-9	C-9-B	5/20/96	2.0-2.5	Pb
C-9	C-9-C	5/20/96	4.0-4.5	Pb
C-10	C-10-A	5/20/96	0-1.0	Pb
C-10	C-10-B (duplicate)	5/20/96	0-1.0	Pb
C-10	C-10-C	5/20/96	3.0-3.5	Pb
C-10	C-10-D	5/20/96	4.0-4.5	Pb
C-11	C-11-A	5/16/96	0-0.5	Pb
C-11	C-11-B	5/16/96	2.0-2.4	Pb
C-11	C-11-C	5/16/96	4.0-4.5	Pb
C-12	C-12-A	5/16/96	0.1-0.6	Pb
C-12	C-12-B	5/16/96	2.0-2.5	Pb
C-12	C-12-C	5/16/96	4.0-4.5	Pb
C-13	C-13-A	5/16/96	0-0.5	Pb
C-13	C-13-B	5/16/96	4.0-4.5	Pb
NA	FB-06S ⁽¹⁾	5/16/96	NA	Pb
NA	FB-07S ⁽¹⁾	5/17/96	NA	Pb
NA	FB-09S ⁽¹⁾	5/20/96	NA	Pb

Notes:

Sample depth is presented in feet below grade.

NA - Not Applicable

Sample C-7-C is a duplicate sample of C-7-B.

Sample C-10-B is a duplicate sample of C-10-A.

(1) FB - Field Blank

Table 2-4
Analytical Results Summary For Soils
Lead (mg/kg)
L.E. Carpenter, Wharton, New Jersey
Hot Spot C

Sample ID	Sample Date	Lab sample ID	Sample Depth	USCS Soil Type	Result	Qualifier
C-1-A	05/17/96	9605G320-008	0-0.5	SP (Fill)	354	
C-1-B	05/17/96	9605G320-007	2.7-3.2	SP (Fill)	32.9	
C-1-C	05/17/96	9605G320-010	4-4.5	SP (Fill)	8.6	
C-2-A	05/17/96	9605G320-006	0-0.5	SW (Fill)	215	
C-2-B	05/17/96	9605G320-011	2-2.5	SW (Fill)	313	
C-2-C	05/17/96	9605G320-014	4-4.5	SW (Fill)	182	
C-3-A	05/17/96	9605G320-001	0-0.5	SW (Fill)	704	
C-3-B	05/17/96	9605G320-009	2.8-3.3	SW (Fill)	753	
C-3-C	05/17/96	9605G320-013	4.2-4.6	Fill, CL	346	
C-5-A	05/17/96	9605G320-005	0-0.5	SW (Fill)	77.2	
C-5-B	05/17/96	9605G320-012	2.2-2.5	SP (Fill), CL/GP	44.1	
C-5-C	05/17/96	9605G320-015	7-7.5	ML	9.4	
C-6-A	05/17/96	9605G320-004	0-0.5	SP (Fill)	242	
C-6-B	05/17/96	9605G320-003	2-2.5	SM	513	
C-6-C	05/17/96	9605G320-002	4-4.5	ML/OL	218	
C-7-A	05/20/96	9605G339-007	0-0.5	SP (Fill)	2610	
C-7-B	05/20/96	9605G339-014	2-3	SM (Fill)	1590	
C-7-C (duplicate)	05/20/96	9605G339-013	2-3	SM (Fill)	611	
C-7-D	05/20/96	9605G339-002	4-4.5	SP (Fill)	1550	
C-8-A	05/20/96	9605G339-003	0-0.5	SM (Fill)	2630	
C-8-B	05/20/96	9605G339-005	2-2.5	SW (Fill)	1150	
C-8-C	05/20/96	9605G339-004	4-4.5	SW (Fill)	500	
C-9-A	05/20/96	9605G339-010	0.2-0.6	SM (Fill)	2420	
C-9-B	05/20/96	9605G339-012	2-2.5	SM (Fill)	2030	
C-9-C	05/20/96	9605G339-011	4.5-5	SW (Fill)	233	
C-10-A	05/20/96	9605G339-006	0-1	SM (Fill)	1790	
C-10-B (duplicate)	05/20/96	9605G339-008	0-1	SM (Fill)	1890	
C-10-C	05/20/96	9605G339-001	3-3.5	SW (Fill)	971	
C-10-D	05/20/96	9605G339-009	4-4.5	SW (Fill)	871	
C-11-A	05/16/96	9605G288-011	0-0.5	SW (Fill)	472	
C-11-B	05/16/96	9605G288-007	2-2.4	SW (Fill)	94.0	
C-11-C	05/16/96	9605G288-009	4-4.5	GP (Fill), CL	13.5	
C-12-A	05/16/96	9605G288-008	0.1-0.6	SW (Fill)	437	
C-12-B	05/16/96	9605G288-006	2-2.5	SW (Fill)	1250	
C-12-C	05/16/96	9605G288-010	4-4.5	GP (Fill)	261	
C-13-A	05/16/96	9605G288-005	0-0.5	SW (Fill)	307	
C-13-B	05/16/96	9605G288-004	4-4.5	SW	30.9	
FB-06S*	05/16/96	9605G288-001	NA	NA	19.5	U
FB-07S*	05/17/96	9605G320-023	NA	NA	19.5	U
FB-09S*	05/20/96	9605G339-015	NA	NA	50.0	U

Notes:

NA -Not applicable.

Sample depth is presented in feet below grade.

U - Analyte was not detected at or above the reporting limit.

* - Field blank sample reported in micrograms per liter (ug/l).

mg/kg - milligram per kilogram.

█ - indicates an exceedance of the remedial goal of 600 mg/kg as specified in the ROD.

(1) Sample result is an average concentration of the original sample and the replicate sample run by the lab.

Table 2-5
Summary of Soil Sampling Activities
L.E. Carpenter, Wharton, New Jersey
Hot Spot 1

SOIL BORING DESIGNATION	SAMPLE DESIGNATION	SAMPLE DATE	SAMPLE DEPTH	SAMPLE PARAMETERS
B1	B1-1	5/13/96	8.1-8.6	DEHP
B1	B1-2	5/13/96	10.3-10.8	DEHP
B2A	B2A-1	5/14/96	8.8-9.3	DEHP
B2A	B2A-2	5/14/96	12.0-12.5	DEHP
B3	B3-1	5/14/96	7.0-7.7	DEHP
B3	B3-2	5/14/96	11.2-11.6	DEHP
B4	B4-1	5/14/96	6.0-6.8	DEHP
B4	B4-2 (duplicate)	5/14/96	6.0-6.8	DEHP
B5	B5-1	5/14/96	8.0-8.5	DEHP
B6	B6-1	5/14/96	6.3-6.8	DEHP
B6	B6-2	5/14/96	8.0-8.5	DEHP
NA	FB-03S ⁽¹⁾	5/13/96	NA	DEHP
NA	FB-04S ⁽¹⁾	5/14/96	NA	DEHP

Notes:

DEHP - denotes Bis (2-ethylhexyl) phthalate as analyzed by USEPA Method 8270.

Sample depth presented is in feet below grade.

NA - Not Applicable.

Sample B4-2 is a duplicate of B4-1.

(1) FB - Field Blank.

Table 2-6
Analytical Results Summary For Soils
DEHP (mg/kg)
L.E. Carpenter, Wharton, New Jersey
Hot Spot 1

Sample ID	Sample Date	Lab sample ID	Sample Depth	USCS Soil Type	Result	Qualifier
B1-1	05/13/96	9605L215-002	8.1 - 8.6	SW	14	E
B1-1	05/13/96	9605L215-002	8.1 - 8.6	SW	27	D
B1-2	05/13/96	9605L215-003	10.3 - 10.8	SW	64	E
B1-2	05/13/96	9605L215-003	10.3 - 10.8	SW	150	D
B2A-1	05/14/96	9605L233-001	8.8 - 9.3	ML/SW	27	E
B2A-1	05/14/96	9605L233-001	8.8 - 9.3	ML/SW	39	D
B2A-2	05/14/96	9605L233-002	12.0 - 12.5	SW	36	E
B2A-2	05/14/96	9605L233-002	12.0 - 12.5	SW	220	D
B3-1	05/14/96	9605L233-003	7.0 - 7.7	GP	25	E
B3-1	05/14/96	9605L233-003	7.0 - 7.7	GP	49	D
B3-2	05/14/96	9605L233-004	11.2 - 11.6	SP	100	E
B3-2	05/14/96	9605L233-004	11.2 - 11.6	SP	790	D
B4-1	05/14/96	9605L233-005	6.0 - 6.8	SW	24	E
B4-1	05/14/96	9605L233-005	6.0 - 6.8	SW	47	D
B4-2 (duplicate)	05/14/96	9605L233-006	6.0 - 6.8	SW	36	E
B4-2 (duplicate)	05/14/96	9605L233-006	6.0 - 6.8	SW	130	D
B5-1	05/14/96	9605L233-007	8.0 - 8.5	SP/GP	23	E
B5-1	05/14/96	9605L233-007	8.0 - 8.5	SP/GP	40	D
B6-1	05/14/96	9605L233-008	6.3 - 6.8	SW	6.8	E
B6-1	05/14/96	9605L233-008	6.3 - 6.8	SW	5.7	D
B6-2	05/14/96	9605L233-009	8.0 - 8.5	SW	2.6	
FB03S*	05/13/96	9605L215-004	NA	NA	8	J
FB-04S*	05/14/96	9605L233-010	NA	NA	18	B

Notes:

DEHP = bis(2-ethylhexyl)phthalate

E - Concentration exceeded the instrument calibration range and was subsequently diluted.

D - Compound analyzed at a dilution.

B - Compound was found in the blank and the sample.

* - Field blank sample reported in microgram per liter (ug/l).

mg/kg - milligram per kilogram.

- indicates an exceedance of the remedial goal of 100 mg/kg as specified in the ROD.

NA - Not Applicable

Sample depth presented is in feet below grade.

B4-2 is a duplicate sample of B4-1.

Table 2-7
Summary of Soil Sampling Activities
L.E. Carpenter, Wharton, New Jersey
Hot Spot 4

SOIL BORING DESIGNATION	SAMPLE DESIGNATION	SAMPLE DATE	SAMPLE DEPTH	SAMPLE PARAMETERS
4-DEL-1	4-DEL-1	5/17/96	0-0.5	DEHP
4-DEL-2	4-DEL-2	5/17/96	0-0.3	DEHP
4-DEL-3	4-DEL-3	5/17/96	0.2-0.5	DEHP
4-DEL-4	4-DEL-4	5/17/96	0.1-0.4	DEHP
4-DEL-4	4-DEL-14 (duplicate)	5/17/96	0.1-0.4	DEHP
4-DEL-5	4-DEL-5	5/17/96	0-0.5	DEHP
4-DEL-6	4-DEL-6	5/17/96	0-0.2	DEHP
4-DEL-7	4-DEL-7	5/17/96	0-0.5	DEHP
4-DEL-8	4-DEL-8	5/17/96	0.1-0.4	DEHP
4-DEL-9	4-DEL-9	5/17/96	0.1-0.4	DEHP
HS4-PES-10	HS4-PES-10-B	5/17/96	7.0-7.8	DEHP
HS4-PES-10	HS4-PES-10-C	5/17/96	9.5-10	DEHP
NA	FB-07S ⁽¹⁾	5/17/96	NA	DEHP

Notes:

DEHP - denotes Bis (2-ethylhexyl) phthalate analyzed by USEPA Method 8270.

Sample depth presented is in feet below grade.

NA - Not Applicable.

Sample 4-DEL-14 is a duplicate of 4-DEL-4.

(1) FB - Field Blank.

Table 2-8
Analytical Results Summary For Soils
DEHP (mg/kg)
L.E. Carpenter, Wharton, New Jersey
Hot Spot 4

Sample ID	Sample Date	Lab sample ID	Sample Depth	USCS Soil Type	Result	Qualifier
4-DEL-1	05/17/96	9605G319-002	0-0.5	FILL	14	E
4-DEL-1	05/17/96	9605G319-002	0-0.5	FILL	17	D
4-DEL-2	05/17/96	9605G319-001	0-0.3	FILL	60	E
4-DEL-2	05/17/96	9605G319-001	0-0.3	FILL	200	D
4-DEL-3	05/17/96	9605G319-005	0.2-0.5	FILL	15	E
4-DEL-3	05/17/96	9605G319-005	0.2-0.5	FILL	23	D
4-DEL-4	05/17/96	9605G319-003	0.1-0.4	FILL	31	E
4-DEL-4	05/17/96	9605G319-003	0.1-0.4	FILL	33	D
4-DEL-14	05/17/96	9605G319-004	0.1-0.4	FILL	31	E
4-DEL-14	05/17/96	9605G319-004	0.1-0.4	FILL	43	D
4-DEL-5	05/17/96	9605G320-022	0-0.5	FILL	12	E
4-DEL-5	05/17/96	9605G320-022	0-0.5	FILL	18	D
4-DEL-6	05/17/96	9605G320-021	0-0.2	FILL	6.1	E
4-DEL-6	05/17/96	9605G320-021	0-0.2	FILL	8.1	D
4-DEL-7	05/17/96	9605G320-016	0-0.5	FILL	34	E
4-DEL-7	05/17/96	9605G320-016	0-0.5	FILL	92	D
4-DEL-8	05/17/96	9605G320-017	0.1-0.4	FILL	18	E
4-DEL-8	05/17/96	9605G320-017	0.1-0.4	FILL	47	D
4-DEL-9	05/17/96	9605G320-020	0.1-0.4	FILL	15	E
4-DEL-9	05/17/96	9605G320-020	0.1-0.4	FILL	29	D
HS4-PES-10B	05/17/96	9605G320-019	7-7.8	SW	730	E
HS4-PES-10B	05/17/96	9605G320-019	7-7.8	SW	14000	D
HS4-PES-10C	05/17/96	9605G320-018	9.5-10	SW	370	E
HS4-PES-10C	05/17/96	9605G320-018	9.5-10	SW	5600	D
FB-07S*	05/17/96	9605G320-023	NA	NA	5	JB

Notes:

DEHP = bis(2-ethylhexyl)phthalate

E - Concentration exceeded the instrument calibration range and was subsequently diluted.

D - Compound analyzed at a dilution.

* - Field blank sample reported in micrograms per liter (ug/l).

mg/kg - milligrams per kilogram

- indicates an exceedance of the remedial goal of 100 mg/kg as specified in the ROD.

NA - Not Applicable

Sample depth presented is in feet below grade.

4-DEL-14 is a duplicate sample of 4-DEL-4.

Table 2-9
Summary of Soil Sampling Activities
L.E. Carpenter, Wharton, New Jersey
MW-19 Delineation

SOIL BORING DESIGNATION	SAMPLE DESIGNATION	SAMPLE DATE	SAMPLE DEPTH	SAMPLE PARAMETERS
B-1	B-1A	5/10/96	0.6-1.2	VOC + 10
B-1	B-1C (duplicate)	5/10/96	0.6-1.2	VOC + 10
B-2	B-2A	5/10/96	4.7-5.3	VOC + 10
B-2	B-2B	5/10/96	9.8-10.3	VOC + 10
B-3	B-3A	5/10/96	1.0-1.4	VOC + 10
B-3	B-3B	5/10/96	8.3-8.7	VOC + 10
B-4	B-4A	5/13/96	1.5-2.0	VOC + 10
B-4	B-4B	5/13/96	8.5-9.0	VOC + 10
B-5	B-5A	5/13/96	4.1-4.4	VOC + 10
B-5	B-5B	5/13/96	6.1-6.6	VOC + 10
B-6	B-6A	5/9/96	1.1-1.5	VOC + 10
B-6	B-6B	5/9/96	6.0-6.4	VOC + 10
B-7	B-7A	5/9/96	1.5-2.0	VOC + 10
B-7	B-7B	5/9/96	5.9-6.3	VOC + 10
B-8	B-8A	5/9/96	1.0-1.5	VOC + 10
B-8	B-8B	5/9/96	2.3-2.7	VOC + 10
B-9	B-9A	5/13/96	1.2-1.7	VOC + 10
NA	FB-01S ⁽¹⁾	5/9/96	NA	VOC + 10
NA	FB-02S ⁽¹⁾	5/10/96	NA	VOC + 10
NA	FB-03S ⁽¹⁾	5/13/96	NA	VOC + 10

Notes:

VOC + 10 denotes volatile organic compounds plus 10 tentatively identified compounds as analyzed by USEPA Method 8260.

Sample depth presented is in feet below grade.

NA - Not Applicable

Sample B-1C is a duplicate sample of B-1A.

(1) FB - Field Blank

Table 2-10
Analytical Results Summary For Soils
•Volatile Organic Compounds (mg/kg)
L.E. Carpenter, Wharton, New Jersey
MW-19 Delineation

Sample ID Lab Sample ID Sample Date Sample Depth (feet bgs) Units	B-1A 9605L188-001 05/10/96 0.6 - 1.2 MG/KG	B-1C 9605L188-005 05/10/96 0.6 - 1.2 MG/KG	B-2A 9605L188-007 05/10/96 4.7 - 5.3 MG/KG	B-2B 9605L188-006 05/10/96 9.8 - 10.3 MG/KG	B-3A 9605L188-008 05/10/96 1.0 - 1.4 MG/KG	B-3B 9605L188-009 05/10/96 8.3 - 8.7 MG/KG	B-4A 9605L215-009 05/13/96 1.5 - 2.0 MG/KG	REMEDIAL GOAL AS SPECIFIED IN EITHER THE ROD OR NJDEP CLEANUP CRITERIA
PARAMETERS:								
Chloromethane	0.012 U	0.013 U	0.011 U	0.01 U	0.011 U	0.012 U	0.012 U	10
Vinyl chloride	0.012 U	0.013 U	0.011 U	0.01 U	0.011 U	0.012 U	0.012 U	10
Bromomethane	0.012 U	0.013 U	0.011 U	0.01 U	0.011 U	0.012 U	0.012 U	1
Chloroethane	0.012 U	0.013 U	0.011 U	0.01 U	0.011 U	0.012 U	0.012 U	NLE
1,1-Dichloroethene	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	10
Acetone	0.015	0.023	0.011 U	0.01 J	0.012	0.012 U	0.012 U	100
Carbon Disulfide	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	NLE
Methylene Chloride	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	1
1,2-Dichloroethene (total)	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	NLE
1,1-Dichloroethane	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	10
Vinyl acetate	0.012 U	0.013 U	0.011 U	0.01 U	0.011 U	0.012 U	0.012 U	NLE
2-Butanone	0.012 U	0.013 U	0.011 U	0.01 U	0.011 U	0.012 U	0.012 U	50
Chloroform	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	1
1,1,1-Trichloroethane	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	50
Carbon Tetrachloride	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	1
Benzene	0.006 U	0.006 U	0.002 J	0.005 U	0.006 U	0.006 U	0.006 U	1
1,2-Dichloroethane	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	1
Trichloroethene	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	1
1,2-Dichloropropane	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	10
Bromodichloromethane	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	1
cis-1,3-Dichloropropene (a)	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	1
4-Methyl-2-pentanone	0.012 U	0.013 U	0.011 U	0.01 U	0.011 U	0.012 U	0.012 U	50
Toluene	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.017	500*
trans-1,3-Dichloropropene (a)	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	1
1,1,2-Trichloroethane	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	1
Tetrachloroethene	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.002 J	1
2-Hexanone	0.012 U	0.013 U	0.011 U	0.01 U	0.011 U	0.012 U	0.012 U	NLE
Dibromochloromethane	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	1
Chlorobenzene	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	1
Ethylbenzene	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	100*
Styrene	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	97
Bromoform	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.006 U	1
1,1,2,2-Tetrachloroethane	0.006 U	0.008 U	0.005 U	0.005 U	0.008 U	0.008 U	0.008 U	1
Xylene (total)	0.006 U	0.006 U	0.005 U	0.005 U	0.006 U	0.008 U	0.008 J	10*
Total Target VOCs	0.015	0.023	0.002	0.01	0.012	0	0.025	
Total TICs	0	0.026	0	0	0	0	0	

Table 2-10
Analytical Results Summary For Soils
Volatile Organic Compounds (mg/kg)
L.E. Carpenter, Wharton, New Jersey
MW-19 Delineation

Sample ID Lab Sample ID Sample Date Sample Depth (feet bgs) Units	B-4B 9605L215-006 05/13/96 8.5 - 9.0 MG/KG	B-5A 9605L215-001 05/13/96 4.1 - 4.4 MG/KG	B-5B 9605L215-014 05/13/96 6.1 - 6.6 MG/KG	B-6A 9605L149-009 05/09/96 1.1 - 1.5 MG/KG	B-6B 9605L149-008 05/09/96 6.0 - 6.4 MG/KG	B-7A 9605L149-001 05/09/96 1.5 - 2.0 MG/KG	B-7B 9605L149-002 05/09/96 5.9 - 6.3 MG/KG	REMEDIAL GOAL AS SPECIFIED IN EITHER THE ROD OR NJDEP CLEANUP CRITERIA
PARAMETERS:								
Chloromethane	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	10
Vinyl chloride	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	10
Bromomethane	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	1
Chloroethane	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	NLE
1,1-Dichloroethene	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	10
Acetone	0.012 U	0.011 U	0.011 U	0.011 U	0.018	0.011 U	0.011	100
Carbon Disulfide	0.006 U	0.005 U	0.005 U	0.002 J	0.006 U	0.005 U	0.006 U	NLE
Methylene Chloride	0.006 U	0.005 U	0.005 U	0.013	0.006	0.005 U	0.011	1
1,2-Dichloroethene (total)	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	NLE
1,1-Dichloroethane	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	10
Vinyl acetate	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	NLE
2-Butanone	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	50
Chloroform	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	1
1,1,1-Trichloroethane	0.006 U	0.005 U	0.005 U	0.004 J	0.006 U	0.005 U	0.006 U	50
Carbon Tetrachloride	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	1
Benzene	0.006 U	0.005 U	0.005 U	0.003 J	0.006 U	0.005 U	0.006 U	1
1,2-Dichloroethane	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	1
Trichloroethene	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	1
1,2-Dichloropropane	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	10
Bromodichloromethane	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	1
cis-1,3-Dichloropropene	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	1
4-Methyl-2-pentanone	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	50
Toluene	0.006 U	0.005 U	0.005 U	0.006 U	0.002 J	0.005 U	0.01	500*
trans-1,3-Dichloropropene	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	1
1,1,2-Trichloroethane	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	1
Tetrachloroethene	0.003 J	0.005 U	0.005 U	0.002 J	0.006 U	0.005 U	0.006 U	1
2-Hexanone	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	NLE
Dibromochloromethane	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	1
Chlorobenzene	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	1
Ethylbenzene	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	100*
Styrene	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	97
Bromoform	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	1
1,1,2,2-Tetrachloroethane	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	1
Xylene (total)	0.006 U	0.005 U	0.005 U	0.006 U	0.006 U	0.005 U	0.006 U	10*
Total Target VOCs	0.003	0	0	0.024	0.026	0	0.032	
Total TICs	0	0	0	0	0	0	0	

Table 2-10
Analytical Results Summary For Soils
Volatile Organic Compounds (mg/kg)
L.E. Carpenter, Wharton, New Jersey
MW-19 Delineation

Sample ID	B-8A	B-8B	B-9A	FB-01S	FB-02S	FB-03S	REMEDIAL GOAL
Lab Sample ID	9605L149-003	9605L149-004	9605L215-005	9605L149-006	9605L188-003	9605L215-012	AS SPECIFIED
Sample Date	05/09/96	05/09/96	05/13/96	05/09/96	05/10/96	05/13/96	IN EITHER THE
Sample Depth (feet bgs)	1.0 - 1.5	2.3 - 2.7	1.2 - 1.7	NA	NA	NA	ROD OR NJDEP
Units	MG/KG	MG/KG	MG/KG	MG/L	MG/L	MG/L	CLEANUP CRITERIA
PARAMETERS:				0			
Chloromethane	0.011 U	0.012 U	0.014 U	0.005 U	0.005 U	0.005 U	10
Vinyl chloride	0.011 U	0.012 U	0.014 U	0.005 U	0.005 U	0.005 U	10
Bromomethane	0.011 U	0.012 U	0.014 U	0.005 U	0.005 U	0.005 U	1
Chloroethane	0.011 U	0.012 U	0.014 U	0.005 U	0.005 U	0.005 U	NLE
1,1-Dichloroethene	0.006 U	0.006 U	0.007 U	0.002 U	0.002 U	0.002 U	10
Acetone	0.015	0.012 U	0.014 U	0.005 U	0.005 U	0.005 U	100
Carbon Disulfide	0.006 U	0.006 U	0.007 U	0.005 U	0.005 U	0.005 U	NLE
Methylene Chloride	0.009	0.011	0.007 U	0.002 U	0.002 U	0.003	1
1,2-Dichloroethene (total)	0.006 U	0.006 U	0.007 U	0.005 U	0.005 U	0.005 U	NLE
1,1-Dichloroethane	0.006 U	0.006 U	0.007 U	0.005 U	0.005 U	0.005 U	10
Vinyl acetate	0.011 U	0.012 U	0.014 U	NA	NA	NA	NLE
2-Butanone	0.011 U	0.012 U	0.014 U	0.005 U	0.005 U	0.005 U	50
Chloroform	0.006 U	0.006 U	0.007 U	0.005 U	0.005 U	0.005 U	1
1,1,1-Trichloroethane	0.006 U	0.003 J	0.007 U	0.005 U	0.005 U	0.005 U	50
Carbon Tetrachloride	0.006 U	0.006 U	0.007 U	0.002 U	0.002 U	0.002 U	1
Benzene	0.006 U	0.006 U	0.007 U	0.001 U	0.001 U	0.001 U	1
1,2-Dichloroethane	0.006 U	0.006 U	0.007 U	0.002 U	0.002 U	0.002 U	1
Trichloroethene	0.006 U	0.006 U	0.007 U	0.001 U	0.001 U	0.001 U	1
1,2-Dichloropropane	0.006 U	0.006 U	0.007 U	0.001 U	0.001 U	0.001 U	10
Bromodichloromethane	0.006 U	0.006 U	0.007 U	0.001 U	0.001 U	0.001 U	1
cis-1,3-Dichloropropene	0.006 U	0.006 U	0.007 U	0.005 U	0.005 U	0.005 U	1
4-Methyl-2-pentanone	0.011 U	0.012 U	0.014 U	0.005 U	0.005 U	0.005 U	50
Toluene	0.01	0.004 J	0.007 U	0.005 U	0.005 U	0.001 J	500*
trans-1,3-Dichloropropene	0.006 U	0.006 U	0.007 U	0.005 U	0.005 U	0.005 U	1
1,1,2-Trichloroethane	0.006 U	0.006 U	0.007 U	0.003 U	0.003 U	0.003 U	1
Tetrachloroethene	0.007	0.005 J	0.007 U	0.001 U	0.001 U	0.001 U	1
2-Hexanone	0.011 U	0.012 U	0.014 U	0.005 U	0.005 U	0.005 U	NLE
Dibromochloromethane	0.006 U	0.006 U	0.007 U	0.005 U	0.005 U	0.005 U	1
Chlorobenzene	0.006 U	0.006 U	0.007 U	0.004 U	0.004 U	0.004 U	1
Ethylbenzene	0.006 U	0.006 U	0.007 U	0.005 U	0.005 U	0.005 U	100*
Styrene	0.006 U	0.006 U	0.007 U	0.005 U	0.005 U	0.005 U	97
Bromoform	0.006 U	0.006 U	0.007 U	0.004 U	0.004 U	0.004 U	1
1,1,2,2-Tetrachloroethane	0.006 U	0.006 U	0.007 U	0.002 U	0.002 U	0.002 U	1
Xylene (total)	0.006 U	0.006 U	0.007 U	0.005 U	0.005 U	0.005 U	10*
Total Target VOCs	0.041	0.023	0	0	0	0.004	
Total TICs	0	0	0	0	0	0	

Notes:

U - Not detected at or above reported detection limit or quantitation limit.

J - Estimated value.

NLE - No Level Established.

(a) - Values reflect the combined standards for the cis and trans isomers of 1,3-Dichloropropene.

* - Remedial goal as specified in the ROD.

Table 3-1
Summary of Lead in Groundwater Analytical Results
L.E. Carpenter and Co., Wharton, New Jersey

Sample Location	Monitoring Event	Date	Lead Concentration (ug/L)
Production Well	1st Round RI	September 1989	5 U
Production Well	2nd Round RI	January 1990	2 U
MW-1	1st Round RI	September 1989	5 U
MW-1	2nd Round RI	January 1990	2 U
MW-2	1st Round RI	September 1989	20 U
MW-2	2nd Round RI	January 1990	2 U
MW-3	1st Round RI	September 1989	5 U
MW-3	2nd Round RI	January 1990	2 U
MW-4	1st Round RI	September 1989	5 U
MW-4	2nd Round RI	January 1990	2 U
MW-4	1st Quarter 1995	February 1995	3.3
MW-5	1st Round RI	September 1989	5 U
MW-5	2nd Round RI	January 1990	10 U
MW-6	2nd Round RI	January 1990	10 U
MW-7	2nd Round RI	January 1990	8.3 S
MW-8	1st Round RI	September 1989	5 U
MW-8	2nd Round RI	January 1990	2 U
MW-9	2nd Round RI	January 1990	2 U
MW-10	2nd Round RI	January 1990	2 U
MW-11I	1st Round RI	September 1989	5 U
MW-11I	2nd Round RI	January 1990	2 U
MW-11I	1st Quarter 1995	February 1995	8.3
MW-27 (dup of MW-11I)	1st Quarter 1995	February 1995	9.4
MW-11D	1st Round RI	September 1989	5 U
MW-11D	2nd Round RI	January 1990	2 U
MW-12S	1st Round RI	September 1989	10 U
MW-12S	2nd Round RI	January 1990	2 U
MW-12I	1st Round RI	September 1989	5 U
MW-12I	2nd Round RI	January 1990	2 U
MW-13S	1st Round RI	September 1989	5 U
MW-13S	2nd Round RI	January 1990	2 U
MW-13S	3rd Round RI	July 1991	ND
MW-13I	1st Round RI	September 1989	5 U
MW-13I	2nd Round RI	January 1990	2 U
MW-13I	3rd Round RI	July 1991	ND
MW-14S	1st Round RI	September 1989	5 U
MW-14S	2nd Round RI	January 1990	2 U
MW-14S	1st Quarter 1995	February 1995	4.4
MW-14I	1st Round RI	September 1989	5 U
MW-14I	2nd Round RI	January 1990	2 U
MW-14I	1st Quarter 1995	February 1995	5.3

Notes at end of table.

Table 3-1
Summary of Lead in Groundwater Analytical Results
L.E. Carpenter and Co., Wharton, New Jersey

Sample Location	Monitoring Event	Date	Lead Concentration (ug/L)
MW-14D	1st Round RI	September 1989	7
MW-14D	2nd Round RI	January 1990	2 U
MW-15S	1st Round RI	September 1989	5 U
MW-15S	2nd Round RI	January 1990	2.1 B
MW-15I	1st Round RI	September 1989	5 U
MW-15I	2nd Round RI	January 1990	2 U
MW-16S	1st Round RI	September 1989	5 U
MW-16S	2nd Round RI	January 1990	2 U
MW-16S	1st Quarter 1995	February 1995	11.2
MW-16I	1st Round RI	September 1989	5 U
MW-16I	2nd Round RI	January 1990	2 U
MW-16I	1st Quarter 1995	February 1995	1.5 U
MW-17S	1st Round RI	September 1989	5 U
MW-17S	2nd Round RI	January 1990	2 U
MW-17D	1st Round RI	September 1989	5 U
MW-17D	2nd Round RI	January 1990	2 U
MW-18S	1st Round RI	September 1989	5 U
MW-18S	2nd Round RI	January 1990	2 U
MW-18S	1st Quarter 1995	February 1995	11.7
MW-18I	1st Round RI	September 1989	5 U
MW-18I	2nd Round RI	January 1990	2 U
MW-18I	1st Quarter 1995	February 1995	4.6
MW-18D	1st Round RI	September 1989	5 U
MW-18D	2nd Round RI	January 1990	2 U
MW-21	3rd Round RI	July 1991	ND
MW-22 (total)	4th Round RI	February 1992	18.6
MW-22 (dissolved)	4th Round RI	February 1992	3 U
MW-23 (total)	4th Round RI	February 1992	672
MW-23 (dissolved)	4th Round RI	February 1992	3 U
MW-24 (total)	4th Round RI	February 1992	91
MW-24 (dissolved)	4th Round RI	February 1992	3 U
MW-25 (total)	4th Round RI	February 1992	98
MW-25 (dissolved)	4th Round RI	February 1992	3 U
WP-A7 (total)	Lead Delineation	July 1996	1.6
WP-A7 (dissolved)	Lead Delineation	July 1996	2.8
WP-A9 (total)	Lead Delineation	July 1996	2.3
WP-A9 (dissolved)	Lead Delineation	July 1996	2.2

Notes:

Shading indicates the concentration is greater than the criterion (10 ug/L) set in the ROD.

B - Concentration is less than the Contract Required Detection Limit (CRDL).

ND - Not detected, data not available for determination of quantitation limit.

J - Estimated concentration.

S - Concentration was determined by method of standard additions.

U - Undetected at the concentration indicated.

ug/L - Micrograms per liter.

Table 3-2
Summary of Groundwater Screening Sampling Activities
L.E. Carpenter, Wharton, New Jersey
MW-19 Delineation

SOIL BORING DESIGNATION	SAMPLE DESIGNATION	SAMPLE DATE	SCREENED INTERVAL	SAMPLE PARAMETERS
B-1	BW-1	5/10/96	9.83 - 14.83	VOC + 10
B-1	BW-11 (duplicate)	5/10/96	9.83 - 14.83	VOC + 10
B-2	BW-2	5/10/96	10.00 - 15.00	VOC + 10
B-3	BW-3	5/10/96	8.99 - 13.99	VOC + 10
B-4	BW-4	5/13/96	9.64 - 14.64	VOC + 10
B-5	BW-5	5/13/96	3.85 - 8.85	VOC + 10
B-6	BW-6	5/9/96	5.30 - 10.30	VOC + 10
B-7	BW-7	5/9/96	4.40 - 9.40	VOC + 10
B-8	BW-8	5/9/96	0.97 - 5.97	VOC + 10
B-9	BW-9	5/13/96	2.45 - 14.45	VOC + 10
NA	FB-01W ⁽¹⁾	5/9/96	NA	VOC + 10
NA	TB-01W ⁽²⁾	5/9/96	NA	VOC + 10
NA	FB-02W ⁽¹⁾	5/10/96	NA	VOC + 10
NA	TB-02W ⁽²⁾	5/10/96	NA	VOC + 10
NA	FB-03W ⁽¹⁾	5/13/96	NA	VOC + 10
NA	TB5-13 ⁽²⁾	5/13/96	NA	VOC + 10

Notes:

VOC + 10 denotes volatile organic compounds plus 10 tentatively identified compounds analyzed by USEPA Method 624.

Sample Interval - Screened interval of dedicated temporary micro-well presented is in feet below grade.

NA - Not Applicable

Sample BW-11 is a duplicate sample of BW-1.

(1) FB - Field Blank

(2) TB - Trip Blank

Table 3-3
Analytical Results Summary For Groundwater
Volatile Organic Compounds (ug/l)
L.E. Carpenter, Wharton, New Jersey
MW-19 Delineation

Sample ID Lab Sample ID Sample Date Units	BW-1 9605L188-013 05/10/96 ug/L	BW-2 9605L188-011 05/10/96 ug/L	BW-3 9605L188-010 05/10/96 ug/L	BW-4 9605L215-008 05/13/96 ug/L	BW-5 9605L215-011 05/13/96 ug/L	BW-6 9605L149-012 05/09/96 ug/L	BW-7 9605L149-011 05/09/96 ug/L	BW-8 9605L149-010 05/09/96 ug/L	NJDEP GROUNDWATER QUALITY CRITERIA* (ug/L)
PARAMETERS:									
Chloromethane	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	30
Vinyl chloride	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	5
Bromomethane	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	10
Chloroethane	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	NLE
1,1-Dichloroethene	2 U	2000 U	2 U	2000 U	2 U	2 U	2 U	2 U	2
Acetone	5 U	5000 U	5 U	10000 B	24 B	5 U	30	12	700
Carbon Disulfide	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	NLE
Methylene Chloride	2 U	2000 U	2 U	2000 U	2 U	2 U	2 U	2 U	2
1,2-Dichloroethene (total)	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	10
1,1-Dichloroethane	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	70
2-Butanone	5 U	5000 U	5 U	5000 U	64	5 U	5 U	5 U	300
Chloroform	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	6
1,1,1-Trichloroethane	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	30
Carbon Tetrachloride	2 U	2000 U	2 U	2000 U	2 U	2 U	2 U	2 U	2
Benzene	1 U	1000 U	1 U	1000 U	1 U	1 U	1 U	1 U	1
1,2-Dichloroethane	2 U	2000 U	2 U	2000 U	2 U	2 U	2 U	2 U	2
Trichloroethene	1 U	1000 U	1 U	1000 U	1 U	1 U	1 U	1 U	1
1,2-Dichloropropane	1 U	1000 U	1 U	1000 U	1 U	1 U	1 U	1 U	1
Bromodichloromethane	1 U	1000 U	1 U	1000 U	1 U	1 U	1 U	1 U	1
cis-1,3-Dichloropropene	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	5
4-Methyl-2-pentanone	5 U	5000 U	5 U	5000 U	190	5 U	5 U	5 U	400
Toluene	5 U	200000	3 J	200000	4 J	5 U	1 J	5 U	1000
trans-1,3-Dichloropropene	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	7
1,1,2-Trichloroethane	3 U	3000 U	3 U	3000 U	3 U	3 U	3 U	3 U	3
Tetrachloroethene	1 U	1000 U	1 U	1000 U	1 U	1 U	1 U	1 U	1
2-Hexanone	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	NLE
Dibromochloromethane	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	10
Chlorobenzene	4 U	4000 U	4 U	4000 U	4 U	4 U	4 U	4 U	5
Ethylbenzene	5 U	7800	5 U	7800	5 U	5 U	5 U	5 U	700
Styrene	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	100
Bromoform	4 U	4000 U	4 U	4000 U	4 U	4 U	4 U	4 U	4
1,1,2,2-Tetrachloroethane	2 U	2000 U	2 U	2000 U	2 U	2 U	2 U	2 U	2
Xylene (total)	5 U	241000	5 U	38000	1 J	5 U	5 U	5 U	40
Total Target VOCs	0	248600	3	245600	269	0	31	12	
Total TICs	0	0	0	0	0	0	6	0	

Table 3-3 (continued)
Analytical Results Summary For Groundwater
Volatile Organic Compounds (ug/l)
L.E. Carpenter, Wharton, New Jersey
MW-19 Delineation

Sample ID Lab Sample ID Sample Date Units	BW-9 9605L215-010 05/13/96 ug/L	BW-11 9605L188-012 05/10/96 ug/L	TB-01 9605L149-005 05/09/96 ug/L	TB-02 9605L188-002 05/10/96 ug/L	TB5-13 9605L215-013 05/13/96 ug/L	FB-01W 9605L149-007 05/09/96 ug/L	FB-02W 9605L188-004 05/10/96 ug/L	FB-03W 9605L215-007 05/13/96 ug/L	NJDEP GROUNDWATER QUALITY CRITERIA* (ug/L)
PARAMETERS:									
Chloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	30
Vinyl chloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5
Bromomethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10
Chloroethane	5 U	5 U	U	5 U	5 U	5 U	5 U	5 U	NLE
1,1-Dichloroethane	2 U	2 U	5 U	2 U	2 U	2 U	2 U	2 U	2
Acetone	9 B	5 U	2 U	5 U	5 U	5	5 U	5 U	700
Carbon Disulfide	5 U	5 U	5 U	5 U	5 U	6 U	5 U	5 U	NLE
Methylene Chloride	2 U	2 U	2 U	2 J	2 U	2 U	2 U	2	2
1,2-Dichloroethane (total)	5 U	5 U	5 U	5 U	5 U	6 U	5 U	5 U	10
1,1-Dichloroethane	5 U	5 U	5 U	5 U	5 U	6 U	5 U	5 U	70
2-Butanone	5 U	5 U	5 U	5 U	5 U	6 U	6 U	5 U	300
Chloroform	5 U	5 U	5 U	5 U	5 U	6 U	5 U	5 U	6
1,1,1-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	30
Carbon Tetrachloride	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2
Benzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1
1,2-Dichloroethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2
Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1
cis-1,3-Dichloropropene	5 U	5 U	6 U	6 U	6 U	5 U	5 U	5 U	5
4-Methyl-2-pentanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	400
Toluene	5 U	5 U	6 U	5 U	2 J	5 U	5 U	5 U	1000
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	7
1,1,2-Trichloroethane	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1
2-Hexanone	5 U	5 U	5 U	5 U	6 U	5 U	6 U	5 U	NLE
Dibromochloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10
Chlorobenzene	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	5
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	700
Styrene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	100
Bromoform	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4
1,1,2,2-Tetrachloroethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2
Xylene (total)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	40
Total Target VOCs	0	0	0	2	2	5	0	2	
Total TICs	0	0	0	0	0	0	0	0	

Notes:

U - Not detected at or above reported detection limit or quantitation limit.

J - Estimated value.

Shading indicates detected concentration exceeds applicable NJDEP Groundwater Quality Criteria.

* - The higher of the Practical Quantitation Level and the Groundwater Quality Criteria was used.

TABLE 3-4
SECOND QUARTER ANALYTICAL RESULTS - BTEX
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

Sample ID		MW-4	MW-14I	MW-15S	MW-15I	MW-17S	MW-25	MW-30	FB-1	Trip Blank
Lab Sample Number	NJDEP Class IIA	52733	52738	52738	52732	52734	52737	52735	52731	52739
Sampling Date	Groundwater	6/14/96	6/14/96	6/14/96	6/14/96	6/14/96	6/14/96	6/14/96	6/14/96	6/12/96
Dilution Factor	Criteria (ug/l)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Units		ug/l	ug/l	ug/l	ug/l	ug/L	ug/l	ug/l	ug/l	ug/l
VOLATILE COMPOUNDS										
Benzene	1	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Toluene	500 (1)	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Ethylbenzene	350 (1)	7.0	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Xylene(Total)	20 (1)	7.8	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Total Confident Conc. VOAs (s)		14.8	U	U	U	U	U	U	U	U

NOTES:

Samples analyzed by Method 602.

ug/l denotes microgram per liter.

Sample MW-30 is a duplicate of MW-15S.

Sample MW-31 is a duplicate of MW-12R.

U denotes not detected.

(1) Discharge criteria established in ROD.

Shading denotes the value exceeds the NJDEP Class IIA Groundwater Criteria

TABLE 3-4 (continued)
SECOND QUARTER ANALYTICAL RESULTS - BTEX
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

Sample ID	NJDEP Class IIA	MW-12R	MW-22	MW-26	MW-31	FB070896	Trip Blank
Lab Sample Number	Groundwater	54862	54860	54859	54861	54863	54864
Sampling Date	Criteria (ug/l)	7/8/96	7/8/96	7/8/96	7/8/96	7/8/96	7/8/96
Dilution Factor		100.0	20.0	2.0	100.0	1.0	1.0
Units		ug/l	ug/L	ug/l	ug/l	ug/l	ug/l
VOLATILE COMPOUNDS							
Benzene	1	10.00 U	2.0 U	0.20 U	10 U	0.10 U	0.10 U
Toluene	500 (1)	14.00 U	2.8 U	0.28 U	14 U	0.14 U	0.14 U
Ethylbenzene	350 (1)	1040	258	0.86	1130	0.14 U	0.14 U
Xylene(Total)	20 (1)	4150	841	1.10	6410	0.50 U	0.50 U
Total Confident Conc. VOAs (s)		5190	1199	1.96	5740	U	U

NOTES:

Samples analyzed by Method 602.

ug/l denotes microgram per liter.

Sample MW-30 is a duplicate of MW-15S.

Sample MW-31 is a duplicate of MW-12R.

U denotes not detected.

(1) Discharge criteria established in ROD.

Shading denotes the value exceeds the NJDEP Class IIA Groundwater Criteria

TABLE 3-5
SECOND QUARTER ANALYTICAL RESULTS - DEHP
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

Sample ID		MW-4	MW-14I	MW-15S	MW-15I	MW-17S	MW-25	MW-30	FB-1
Lab Sample Number	NJDEP Class IIA	52733	52738	52736	52732	52734	52737	52735	52731
Sampling Date	Groundwater	6/14/96	6/14/96	6/14/96	6/14/96	6/14/96	6/14/96	6/14/96	6/14/96
Dilution Factor	Criteria (ug/l)	100.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Units		ug/l	ug/l	ug/l	ug/l	ug/L	ug/l	ug/l	ug/l
SEMIVOLATILE COMPOUNDS									
bis(2-Ethylhexyl)phthalate	30	9300	1.3 U	1.2 U	1.2 U	1.3 U	1.2 U	1.2 U	1.4 U
Total Confident Conc. BNA		9300	1.3 U	1.2 U	1.2 U	1.3 U	1.2 U	1.2 U	1.4 U

NOTES:

Samples analyzed by Method 625.

ug/l denotes microgram per liter.

Sample MW-30 is a duplicate of MW-15S.

Sample MW-31 is a duplicate of MW-12R.

U denotes not detected.

Shading denotes the value exceeds the NJDEP Class IIA Groundwater Criteria

TABLE 3-5 (continued)
SECOND QUARTER ANALYTICAL RESULTS - DEHP
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

Sample ID	NJDEP Class IIA	MW-12R	MW-22	MW-26	MW-31	FB070896
Lab Sample Number	Groundwater	54862	54860	54859	54861	54863
Sampling Date	Criteria (ug/l)	7/8/96	7/8/96	7/8/96	7/8/96	7/8/96
Dilution Factor		5.0	1.0	1.0	5.0	1.0
Units		ug/l	ug/L	ug/l	ug/l	ug/l
SEMIVOLATILE COMPOUNDS						
bis(2-Ethylhexyl)phthalate	30	460	70	69	490	1.2 U
Total Confident Conc. BNA		460	70	69	490	1.2 U

NOTES:

Samples analyzed by Method 625.

ug/l denotes microgram per liter.

Sample MW-30 is a duplicate of MW-15S.

Sample MW-31 is a duplicate of MW-12R.

U denotes not detected.

Shading denotes the value exceeds the NJDEP Class IIA Groundwater Criteria

TABLE 3-6
Water Level Measurements Taken on 9 May 1996
During Step One of the Percolation Tests

WATER LEVELS FOR PERC-6			
TIME	Trial 1	Trial 2	Trial 3
14:48	3.48'		
14:53	3.67'		
15:27		3.39'	
15:32		3.60'	
15:33			3.71'
15:38			3.90'
WATER LEVELS FOR PERC-9			
TIME	Trial 1	Trial 2	Trial 3
13:48	5.10'		
13:53	5.33'		
13:58		5.37'	
14:03		5.50'	
14:19			5.00
14:24			5.21
WATER LEVELS FOR P3			
TIME	Trial 1	Trial 2	Trial 3
11:56	0.70'		
12:04	0.45'		
12:06	0.45'		
12:07		0.70'	
12:08		0.60'	
12:13		0.55'	
12:15		0.55'	
12:16		0.55'	
12:17		0.55'	
12:18			0.70'
12:19			0.65'
12:20			0.60'
12:22			0.60'
12:23			0.60'
12:25			0.60'
12:27			0.60'
12:28			0.60'

Note: All water levels indicate the depth of the water column below the bottom the fixed measuring point.

TABLE 3-7
Water Level Measurements Taken on 9 May 1996
During Step Two of the Percolation Tests

TIME	WATER LEVELS FOR PERC-6
15:27	3.39'
15:31	3.60'
15:33	3.71'
15:36	3.90'
TIME	WATER LEVELS FOR PERC-9
15:23	5.00'
15:34	5.50'

Notes:

* All water levels indicate the depth of the water column below the fixed measuring point.

TABLE 3-8
Second Quarter Sample Summary
L.E. Carpenter Site
Wharton, NJ

Well	Date Sampled	Parameters
MW-4	6/14/96	BTEX, DEHP
MW-15I	6/14/96	BTEX, DEHP
MW-15S	6/14/96	BTEX, DEHP
MW-14I	6/14/96	BTEX, DEHP
MW-17S	6/14/96	BTEX, DEHP
MW-25	6/14/96	BTEX, DEHP
MW-30	6/14/96	BTEX, DEHP
FB-1	6/14/96	BTEX, DEHP
TRIP BLANK	6/14/96	BTEX
MW-12R	7/08/96	BTEX, DEHP
MW-22	7/08/96	BTEX, DEHP
MW-26	7/08/96	BTEX, DEHP
MW-31	7/08/96	BTEX, DEHP
FB070896	7/08/96	BTEX, DEHP
TRIP BLANK	7/08/96	BTEX

Notes:

BTEX = benzene, toluene, ethylbenzene, and xylenes (total).

DEHP = bis(2-ethylhexyl)phthalate

MW-30 is a blind duplicate of MW-15S.

MW-31 is a blind duplicate of MW-12R.

FB-1 and FB070896 are field blanks.



APPENDIX C

HOT SPOT DELINEATION DATA PACKAGE

SUMMARY PAGES

Weston Environmental Metrics, Inc. (Gulf Coast)

VOLATILES BY GC/MS, HSL LIST

Report Date: 05/18/96 16:51

RFW Batch Number: 9605L149

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 1a

Sample Information	Cust ID:	B-7A	B-7A	B-7A	B-7B	B-8A	B-8B
	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1	1	1	1	1	1
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
1,2-Dichloroethane-d4		94 %	101 %	100 %	96 %	102 %	91 %
Surrogate Toluene-d8		109 %	109 %	110 %	98 %	111 %	98 %
Recovery 4-Bromofluorobenzene		90 %	91 %	83 %	90 %	96 %	82 %
=====f =====f =====f =====f =====f =====f =====							
Chloromethane		11 U	83 %	88 %	11 U	11 U	12 U
Vinyl chloride		11 U	95 %	99 %	11 U	11 U	12 U
Bromomethane		11 U	83 %	87 %	11 U	11 U	12 U
Chloroethane		11 U	104 %	110 %	11 U	11 U	12 U
1,1-Dichloroethene		5 U	110 %	116 %	6 U	6 U	6 U
Acetone		11 U	101 %	63 %	11	15	12 U
Carbon Disulfide		5 U	84 %	89 %	6 U	6 U	6 U
Methylene Chloride		5 U	116 %	129 %	11	9	11
1,2-Dichloroethene (total)		5 U	101 %	107 %	6 U	6 U	6 U
1,1-Dichloroethane		5 U	103 %	112 %	6 U	6 U	6 U
Vinyl acetate		11 U	58 %	38 %	11 U	11 U	12 U
2-Butanone		11 U	107 %	64 %	11 U	11 U	12 U
Chloroform		5 U	101 %	107 %	6 U	6 U	6 U
1,1,1-Trichloroethane		5 U	106 %	105 %	6 U	6 U	3 J
Carbon Tetrachloride		5 U	102 %	100 %	6 U	6 U	6 U
Benzene		5 U	107 %	105 %	6 U	6 U	6 U
1,2-Dichloroethane		5 U	100 %	98 %	6 U	6 U	6 U
Trichloroethene		5 U	91 %	87 %	6 U	6 U	6 U
1,2-Dichloropropane		5 U	109 %	102 %	6 U	6 U	6 U
Bromodichloromethane		5 U	112 %	102 %	6 U	6 U	6 U
cis-1,3-Dichloropropene		5 U	116 %	104 %	6 U	6 U	6 U
4-Methyl-2-pentanone		11 U	114 %	67 %	11 U	11 U	12 U
Toluene		5 U	115 %	164 %	10	10	4 J
trans-1,3-Dichloropropene		5 U	114 %	100 %	6 U	6 U	6 U
1,1,2-Trichloroethane		5 U	101 %	82 %	6 U	6 U	6 U
Tetrachloroethene		5 U	90 %	90 %	6 U	7	5 J
2-Hexanone		11 U	95 %	54 %	11 U	11 U	12 U
Dibromochloromethane		5 U	109 %	93 %	6 U	6 U	6 U
Chlorobenzene		5 U	101 %	97 %	6 U	6 U	6 U

* = Outside of EPA CLP QC Limits.

Cust ID:	B-7A	B-7A	B-7A	B-7B	B-8A	B-8B
RfW#:	001	001 MS	001 MSD	002	003	004
Ethylbenzene	5 U	102 %	101 %	6 U	6 U	6 U
Styrene	5 U	98 %	92 %	6 U	6 U	6 U
Bromoform	5 U	95 %	71 %	6 U	6 U	6 U
1,1,2,2-Tetrachloroethane	5 U	104 %	75 %	6 U	6 U	6 U
Xylene (total)	5 U	99 %	99 %	6 U	6 U	6 U

* = Outside of EPA CLP QC Limits.

Weston Environmental Metrics, Inc. (Gulf Coast)

VOLATILES BY GC/MS, HSL LIST

Report Date: 05/18/96 16:51

RFW Batch Number: 9605L149

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 2a

11

Cust ID:		B-6B	B-6A	VBLKUB	VBLKUB BS
Sample RFW#:		008	009	96GVF156-MB1	96GVF156-MB1
Information Matrix:		SOIL	SOIL	SOIL	SOIL
D.F.:		1	1	1	1
Units:		ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate	1,2-Dichloroethane-d4	95 %	99 %	98 %	92 %
Recovery	Toluene-d8	105 %	111 %	98 %	93 %
	4-Bromofluorobenzene	87 %	80 %	98 %	91 %
=====f]=====f]=====f]=====f]=====f]=====f]					
Chloromethane		11 U	11 U	10 U	79 %
Vinyl chloride		11 U	11 U	10 U	89 %
Bromomethane		11 U	11 U	10 U	78 %
Chloroethane		11 U	11 U	10 U	97 %
1,1-Dichloroethene		6 U	6 U	5 U	107 %
Acetone		18	11 U	10 U	109 %
Carbon Disulfide		6 U	2 J	5 U	90 %
Methylene Chloride		6	13	5 U	103 %
1,2-Dichloroethene (total)		6 U	6 U	5 U	101 %
1,1-Dichloroethane		6 U	6 U	5 U	96 %
Vinyl acetate		11 U	11 U	10 U	97 %
2-Butanone		11 U	11 U	10 U	118 %
Chloroform		6 U	6 U	5 U	96 %
1,1,1-Trichloroethane		6 U	4 J	5 U	98 %
Carbon Tetrachloride		6 U	6 U	5 U	96 %
Benzene		6 U	3 J	5 U	101 %
1,2-Dichloroethane		6 U	6 U	5 U	100 %
Trichloroethene		6 U	6 U	5 U	94 %
1,2-Dichloropropane		6 U	6 U	5 U	102 %
Bromodichloromethane		6 U	6 U	5 U	104 %
cis-1,3-Dichloropropene		6 U	6 U	5 U	120 %
4-Methyl-2-pentanone		11 U	11 U	10 U	122 %
Toluene		2 J	6 U	5 U	100 %
trans-1,3-Dichloropropene		6 U	6 U	5 U	120 %
1,1,2-Trichloroethane		6 U	6 U	5 U	105 %
Tetrachloroethene		6 U	2 J	5 U	88 %
2-Hexanone		11 U	11 U	10 U	111 %
Dibromochloromethane		6 U	6 U	5 U	107 %
Chlorobenzene		6 U	6 U	5 U	101 %

*= Outside of EPA CLP QC limits.

Cust ID:

B-6B

B-6A

VBLKUB

VBLKUB BS

RfW#:

008

009

96GVF156-MB1

96GVF156-MB1

Ethylbenzene	6	U	6	U	5	U	100	%
Styrene	6	U	6	U	5	U	104	%
Bromoform	6	U	6	U	5	U	110	%
1,1,2,2-Tetrachloroethane	6	U	6	U	5	U	113	%
Xylene (total)	6	U	6	U	5	U	98	%

*= Outside of EPA CLP QC Limits.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Monday May 20th, 1996

Attn: Ms. Tammy Edgington

RE: B-7A
Project # 06720-020-002-0108
Lab ID: 9605L149-001
Sample Date: 05/09/96
Date Received: 05/10/96
Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Monday May 20th, 1996

Attn: Ms. Tammy Edgington

RE: B-7B
Project # 06720-020-002-0108
Lab ID: 9605L149-002
Sample Date: 05/09/96
Date Received: 05/10/96
Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Monday May 20th, 1996

Attn: Ms. Tammy Edgington

RE: B-8A
Project # 06720-020-002-0108
Lab ID: 9605L149-003
Sample Date: 05/09/96
Date Received: 05/10/96
Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Monday May 20th, 1996

RE: B-8B
Project # 06720-020-002-0108
Lab ID: 9605L149-004
Sample Date: 05/09/96
Date Received: 05/10/96
Units: ug/Kg

Attn: Ms. Tammy Edgington

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Monday May 20th, 1996

Attn: Ms. Tammy Edgington

RE: B-6B
Project # 06720-020-002-0108
Lab ID: 9605L149-008
Sample Date: 05/09/96
Date Received: 05/10/96
Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Monday May 20th, 1996

Attn: Ms. Tammy Edgington

RE: B-6A
Project # 06720-020-002-0108
Lab ID: 9605L149-009
Sample Date: 05/09/96
Date Received: 05/10/96
Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Weston Environmental Metrics, Inc. (Gulf Coast)

VOLATILES BY GC/MS, HSL LIST

Report Date: 05/20/96 13:53

RFW Batch Number: 9605L188

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 1a

Sample Information	Cust ID:	B-1A	B-1A	B-1A	B-1C	B-1C	B-2B
	RFW#:	001	001 MS	001 MSD	005	005	006
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1	1	1	1	1	1
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg REPREP	ug/Kg
1,2-Dichloroethane-d4		102 %	116 %	106 %	105 %	115 %	105 %
Surrogate Toluene-d8		124 * %	120 * %	121 * %	116 %	121 * %	102 %
Recovery 4-Bromofluorobenzene		79 %	88 %	74 %	86 %	56 * %	93 %
Chloromethane		12 U	45 %	46 %	13 U	13 U	10 U
Vinyl chloride		12 U	54 %	52 %	13 U	13 U	10 U
Bromomethane		12 U	57 %	60 %	13 U	13 U	10 U
Chloroethane		12 U	71 %	74 %	13 U	13 U	10 U
1,1-Dichloroethene		6 U	90 %	92 %	6 U	6 U	5 U
Acetone		15	82 %	166 * %	23	13 U	10 J
Carbon Disulfide		6 U	58 %	52 %	6 U	6 U	5 U
Methylene Chloride		6 U	95 %	112 * %	6 U	6 U	5 U
1,2-Dichloroethene (total)		6 U	83 %	80 %	6 U	6 U	5 U
1,1-Dichloroethane		6 U	98 %	115 %	6 U	6 U	5 U
Vinyl acetate		12 U	28 %	26 * %	13 U	13 U	10 U
2-Butanone		12 U	126 %	215 * %	13 U	13 U	10 U
Chloroform		6 U	96 %	110 %	6 U	6 U	5 U
1,1,1-Trichloroethane		6 U	104 %	127 %	6 U	6 U	5 U
Carbon Tetrachloride		6 U	96 %	115 %	6 U	6 U	5 U
Benzene		6 U	106 %	119 %	6 U	6 U	5 U
1,2-Dichloroethane		6 U	103 %	116 %	6 U	6 U	5 U
Trichloroethene		6 U	78 %	83 %	6 U	6 U	5 U
1,2-Dichloropropane		6 U	111 %	129 %	6 U	6 U	5 U
Bromodichloromethane		6 U	102 %	110 %	6 U	6 U	5 U
cis-1,3-Dichloropropene		6 U	98 %	105 %	6 U	6 U	5 U
4-Methyl-2-pentanone		12 U	154 %	278 * %	13 U	13 U	10 U
Toluene		6 U	115 %	140 * %	6 U	6 U	5 U
trans-1,3-Dichloropropene		6 U	120 %	133 %	6 U	6 U	5 U
1,1,2-Trichloroethane		6 U	108 %	128 * %	6 U	6 U	5 U
Tetrachloroethene		6 U	81 %	93 %	6 U	6 U	5 U
2-Hexanone		12 U	122 %	217 * %	13 U	13 U	10 U
Dibromochloromethane		6 U	101 %	108 %	6 U	6 U	5 U
Chlorobenzene		6 U	100 %	108 %	6 U	6 U	5 U

* = Outside of EPA CLP QC Limits.

007A

*
5-20-96

	Cust ID:		B-1A	B-1A	B-1A	B-1C	B-1C	B-2B
	RFW#:		001	001 MS	001 MSD	005	005 REPREP	006
Ethylbenzene	6	U	105	%	118	%	6 U	5 U
Styrene	6	U	90	%	92	%	6 U	5 U
Bromoform	6	U	98	%	113	%	6 U	5 U
1,1,2,2-Tetrachloroethane	6	U	146	%	210 *	%	6 U	5 U
Xylene (total)	6	U	99	%	113	%	6 U	5 U

*= Outside of EPA CLP QC Limits.

Weston Environmental Metrics, Inc. (Gulf Coast)

VOLATILES BY GC/MS, HSL LIST

Report Date: 05/20/96 13:53

RFW Batch Number: 9605L188

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 2a

Cust ID:		B-2A	B-3A	B-3B	VBLKUU	VBLKUU BS	VBLKUY
Sample RFW#:		007	008	009	96GVF158-MB1	96GVF158-MB1	96GVB073-MB1
Information Matrix:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
D.F.:		1	1	1	1	1	1
Units:		ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate	1,2-Dichloroethane-d4	110 %	98 %	105 %	102 %	104 %	113 %
	Toluene-d8	104 %	114 %	108 %	102 %	106 %	102 %
Recovery	4-Bromofluorobenzene	95 %	76 %	101 %	100 %	97 %	94 %
=====f]=====f]=====f]=====f]=====f]=====f]=====f]							
Chloromethane		11 U	11 U	12 U	10 U	52 %	10 U
Vinyl chloride		11 U	11 U	12 U	10 U	64 %	10 U
Bromomethane		11 U	11 U	12 U	10 U	66 %	10 U
Chloroethane		11 U	11 U	12 U	10 U	84 %	10 U
1,1-Dichloroethene		5 U	6 U	6 U	5 U	109 %	5 U
Acetone		11 U	12 U	12 U	10 U	41 %	10 U
Carbon Disulfide		5 U	6 U	6 U	5 U	91 %	5 U
Methylene Chloride		5 U	6 U	6 U	5 U	105 %	5 U
1,2-Dichloroethene (total)		5 U	6 U	6 U	5 U	106 %	5 U
1,1-Dichloroethane		5 U	6 U	6 U	5 U	104 %	5 U
Vinyl acetate		11 U	11 U	12 U	10 U	96 %	10 U
2-Butanone		11 U	11 U	12 U	10 U	53 %	10 U
Chloroform		5 U	6 U	6 U	5 U	102 %	5 U
1,1,1-Trichloroethane		5 U	6 U	6 U	5 U	101 %	5 U
Carbon Tetrachloride		5 U	6 U	6 U	5 U	97 %	5 U
Benzene		2 J	6 U	6 U	5 U	104 %	5 U
1,2-Dichloroethane		5 U	6 U	6 U	5 U	101 %	5 U
Trichloroethene		5 U	6 U	6 U	5 U	91 %	5 U
1,2-Dichloropropane		5 U	6 U	6 U	5 U	103 %	5 U
Bromodichloromethane		5 U	6 U	6 U	5 U	102 %	5 U
cis-1,3-Dichloropropene		5 U	6 U	6 U	5 U	113 %	5 U
4-Methyl-2-pentanone		11 U	11 U	12 U	10 U	63 %	10 U
Toluene		5 U	6 U	6 U	5 U	107 %	5 U
trans-1,3-Dichloropropene		5 U	6 U	6 U	5 U	118 %	5 U
1,1,2-Trichloroethane		5 U	6 U	6 U	5 U	86 %	5 U
Tetrachloroethene		5 U	6 U	6 U	5 U	85 %	5 U
2-Hexanone		11 U	11 U	12 U	10 U	50 %	10 U
Dibromochloromethane		5 U	6 U	6 U	5 U	96 %	5 U
Chlorobenzene		5 U	6 U	6 U	5 U	102 %	5 U

* = Outside of EPA CLP QC limits.

600

Cust ID:

B-2A

B-3A

B-3B

VBLKUU

VBLKUU BS

VBLKUY

RfW#:

007

008

009

96GVF158-MB1

96GVF158-MB1

96GVB073-MB1

Ethylbenzene	5	U	6	U	6	U	5	U	107	%	5	U
Styrene	5	U	6	U	6	U	5	U	100	%	5	U
Bromoform	5	U	6	U	6	U	5	U	78	%	5	U
1,1,2,2-Tetrachloroethane	5	U	6	U	6	U	5	U	82	%	5	U
Xylene (total)	5	U	6	U	6	U	5	U	102	%	5	U

*= Outside of EPA CLP QC limits.

Weston Environmental Metrics, Inc. (Gulf Coast)

VOLATILES BY GC/MS, HSL LIST

Report Date: 05/20/96 13:53

RFW Batch Number: 9605L188

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 3a

10A

Cust ID: VBLKUY BS

Sample
InformationRFW#: 96GVB073-MB1
Matrix: SOIL
D.F.: 1
Units: ug/Kg

1,2-Dichloroethane-d4	108	%
Surrogate Toluene-d8	99	%
Recovery 4-Bromofluorobenzene	96	%
=====f]=====f]=====f]=====f]=====f]=====f]		
Chloromethane	73	%
Vinyl chloride	81	%
Bromomethane	74	%
Chloroethane	87	%
1,1-Dichloroethene	101	%
Acetone	117	%
Carbon Disulfide	90	%
Methylene Chloride	98	%
1,2-Dichloroethene (total)	98	%
1,1-Dichloroethane	94	%
Vinyl acetate	77	%
2-Butanone	100	%
Chloroform	94	%
1,1,1-Trichloroethane	99	%
Carbon Tetrachloride	98	%
Benzene	102	%
1,2-Dichloroethane	100	%
Trichloroethene	95	%
1,2-Dichloropropane	98	%
Bromodichloromethane	100	%
cis-1,3-Dichloropropene	115	%
4-Methyl-2-pentanone	101	%
Toluene	101	%
trans-1,3-Dichloropropene	118	%
1,1,2-Trichloroethane	96	%
Tetrachloroethene	94	%
2-Hexanone	96	%
Dibromochloromethane	98	%
Chlorobenzene	98	%

*= Outside of EPA CLP QC Limits.

Cust ID: VBLKUY BS

RFW#: 96GVB073-MB1

Ethylbenzene	111	%
Styrene	97	%
Bromoform	97	%
1,1,2,2-Tetrachloroethane	93	%
Xylene (total)	96	%

*= Outside of EPA CLP QC Limits.

12R



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Tuesday May 21st, 1996

Attn: Ms. Tammy Edgington

RE: B-1A
Project # 06720-020-002-0108
Lab ID: 9605L188-001
Sample Date: 05/10/96
Date Received: 05/13/96
Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Tuesday May 21st, 1996

RE: B-1C
Project # 06720-020-002-0108
Lab ID: 9605L188-005
Sample Date: 05/10/96
Date Received: 05/13/96
Units: ug/Kg

Tentatively Identified Compounds

3 Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Volatile Compound	Retention Time	Estimated Concentration
Unknown	12.821	11 J
TRICHLOROFLUOROMETHANE	13.231	8 NJ
Unknown	24.358	7 J



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Tuesday May 21st, 1996

Attn: Ms. Tammy Edgington

RE: B-2B
Project # 06720-020-002-0108
Lab ID: 9605L188-006
Sample Date: 05/10/96
Date Received: 05/13/96
Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Tuesday May 21st, 1996

Attn: Ms. Tammy Edgington

RE: B-2A
Project # 06720-020-002-0108
Lab ID: 9605L188-007
Sample Date: 05/10/96
Date Received: 05/13/96
Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Tuesday May 21st, 1996

Attn: Ms. Tammy Edgington

RE: B-3A
Project # 06720-020-002-0108
Lab ID: 9605L188-008
Sample Date: 05/10/96
Date Received: 05/13/96
Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Tuesday May 21st, 1996

Attn: Ms. Tammy Edgington

RE: B-3B
Project # 06720-020-002-0108
Lab ID: 9605L188-009
Sample Date: 05/10/96
Date Received: 05/13/96
Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

RFW Batch Number: 9605L215

Weston Environmental Metrics, Inc. (Gulf Coast)
VOLATILES BY GC/MS, HSL LIST
Client: L.E. Carpenter

Report Date: 05/22/96 08:57
Work Order: 06720-020-002-0
Page: 1a

Sample Information	RFW#: Matrix: D.F.: Units:	B-5A	B-5A	B-5A	B-9A	B-9A	B-4B
	001	001 MS	001 MSD	005	005	006	
	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
	1	1	1	1	1	1	
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	
1,2-Dichloroethane-d4	106	108	102	103	114	106	
Surrogate Recovery	99	111	101	123	114	102	
4-Bromofluorobenzene	104	97	97	87	80	95	
	%	%	%	%	%	%	
Chloromethane	11	54	53	14	14	12	
Vinyl chloride	11	66	63	14	14	12	
Bromomethane	11	67	64	14	14	12	
Chloroethane	11	82	80	14	14	12	
1,1-Dichloroethane	5	87	88	7	7	6	
Acetone	11	89	73	14	14	12	
Carbon Disulfide	5	69	69	7	7	6	
Methylene Chloride	5	93	89	7	7	6	
1,2-Dichloroethene (total)	5	89	90	7	7	6	
1,1-Dichloroethane	5	89	84	7	7	6	
Vinyl acetate	11	6*	15*	14	14	12	
2-Butanone	11	102	84	14	14	12	
Chloroform	5	90	86	4	7	6	
1,1,1-Trichloroethane	5	96	89	7	7	6	
Carbon Tetrachloride	5	91	87	7	7	6	
Benzene	5	94	88	7	7	6	
1,2-Dichloroethane	5	95	89	7	7	6	
Trichloroethene	5	83	84	7	7	6	
1,2-Dichloropropane	5	98	90	7	7	6	
Bromodichloromethane	5	99	96	7	7	6	
cis-1,3-Dichloropropene	5	112	106	7	7	6	
4-Methyl-2-pentanone	11	141	105	14	14	12	
Toluene	5	117	97	7	7	6	
trans-1,3-Dichloropropene	5	132	112	7	7	6	
1,1,2-Trichloroethane	5	96	87	7	7	6	
Tetrachloroethene	5	68	67	7	7	6	
2-Hexanone	11	112	89	14	14	12	
Dibromochloromethane	5	98	95	7	7	6	
Chlorobenzene	5	94	88	7	7	6	

*= Outside of EPA CLP limits.

was stable

Cust ID: B-5A B-5A B-5A B-9A B-9A B-4B

RFW#:	001	001 MS	001 MSD	005	005 REPREP	006
Ethylbenzene	5 U	88 %	87 %	7 U	7 U	6 U
Styrene	5 U	88 %	85 %	7 U	7 U	6 U
Bromofom	5 U	94 %	87 %	7 U	7 U	6 U
1,1,2,2-tetrachloroethane	5 U	116 %	91 %	7 U	7 U	6 U
Xylene (total)	5 U	86 %	85 %	7 U	7 U	6 U

*= Outside of EPA CLP QC Limits.

Weston Environmental Metrics, Inc. (Gulf Coast)

VOLATILES BY GC/MS, HSL LIST

Report Date: 05/22/96 08:57

RFW Batch Number: 9605L215

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 2a

Cust ID:		B-4A	B-4A	B-5B	VBLKTT	VBLKTT BS	VBLKUO
Sample RFW#:		009	009	014	96GVT139-MB1	96GVT139-MB1	96GVB075-MB1
Information Matrix:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
D.F.:		1	1	1	1	1	1
Units:		ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
			REPREP				
1,2-Dichloroethane-d4		108 %	118 %	101 %	105 %	104 %	110 %
Surrogate Toluene-d8		132 * %	116 %	92 %	102 %	101 %	98 %
Recovery 4-Bromofluorobenzene		80 %	69 * %	99 %	101 %	101 %	88 %
=====f]=====f]=====f]=====f]=====f]=====f]							
Chloromethane		12 U	12 U	11 U	10 U	61 %	10 U
Vinyl chloride		12 U	12 U	11 U	10 U	71 %	10 U
Bromomethane		12 U	12 U	11 U	10 U	71 %	10 U
Chloroethane		12 U	12 U	11 U	10 U	86 %	10 U
1,1-Dichloroethene		6 U	6 U	5 U	5 U	95 %	5 U
Acetone		12 U	12 U	11 U	10 U	71 %	10 U
Carbon Disulfide		6 U	6 U	5 U	5 U	79 %	5 U
Methylene Chloride		6 U	6 U	5 U	5 U	97 %	5 U
1,2-Dichloroethene (total)		6 U	6 U	5 U	5 U	96 %	5 U
1,1-Dichloroethane		6 U	6 U	5 U	5 U	92 %	5 U
Vinyl acetate		12 U	12 U	11 U	10 U	96 %	10 U
2-Butanone		12 U	12 U	11 U	10 U	90 %	10 U
Chloroform		6 U	6 U	5 U	5 U	94 %	5 U
1,1,1-Trichloroethane		6 U	6 U	5 U	5 U	97 %	5 U
Carbon Tetrachloride		6 U	6 U	5 U	5 U	95 %	5 U
Benzene		6 U	6 U	5 U	5 U	96 %	5 U
1,2-Dichloroethane		6 U	6 U	5 U	5 U	98 %	5 U
Trichloroethene		6 U	6 U	5 U	5 U	91 %	5 U
1,2-Dichloropropane		6 U	6 U	5 U	5 U	96 %	5 U
Bromodichloromethane		6 U	6 U	5 U	5 U	99 %	5 U
cis-1,3-Dichloropropene		6 U	6 U	5 U	5 U	117 %	5 U
4-Methyl-2-pentanone		12 U	12 U	11 U	10 U	106 %	10 U
Toluene		17	5 J	5 U	5 U	96 %	5 U
trans-1,3-Dichloropropene		6 U	6 U	5 U	5 U	118 %	5 U
1,1,2-Trichloroethane		6 U	6 U	5 U	5 U	96 %	5 U
Tetrachloroethene		2 J	2 J	5 U	5 U	74 %	5 U
2-Hexanone		12 U	12 U	11 U	10 U	94 %	10 U
Dibromochloromethane		6 U	6 U	5 U	5 U	100 %	5 U
Chlorobenzene		6 U	6 U	5 U	5 U	97 %	5 U

* = Outside of EPA CLP QC Limits.

010

Weston Environmental Metrics, Inc. (Gulf Coast)

VOLATILES BY GC/MS, HSL LIST

Report Date: 05/22/96 08:57

RFW Batch Number: 9605L215

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 39

Cust ID: VBLKUO BS

Sample RFW#: 96GVB075-MB1
Information Matrix: SOIL
D.F.: 1
Units: ug/Kg

Surrogate	1,2-Dichloroethane-d4	112	%
Recovery	Toluene-d8	98	%
	4-Bromofluorobenzene	98	%
=====f]=====f]=====f]=====f]=====f]=====f]=====			
	Chloromethane	36	%
	Vinyl chloride	48	%
	Bromomethane	54 *	%
	Chloroethane	58	%
	1,1-Dichloroethene	88	%
	Acetone	98	%
	Carbon Disulfide	68	%
	Methylene Chloride	96	%
	1,2-Dichloroethene (total)	93	%
	1,1-Dichloroethane	80	%
	Vinyl acetate	109	%
	2-Butanone	115	%
	Chloroform	84	%
	1,1,1-Trichloroethane	90	%
	Carbon Tetrachloride	87	%
	Benzene	94	%
	1,2-Dichloroethane	94	%
	Trichloroethene	86	%
	1,2-Dichloropropane	95	%
	Bromodichloromethane	108	%
	cis-1,3-Dichloropropene	117	%
	4-Methyl-2-pentanone	122	%
	Toluene	90	%
	trans-1,3-Dichloropropene	117	%
	1,1,2-Trichloroethane	104	%
	Tetrachloroethene	82	%
	2-Hexanone	114	%
	Dibromochloromethane	116	%
	Chlorobenzene	93	%

*= Outside of EPA CLP QC Limits.

MBS 5/22/96

Cust ID: VBLKUO BS

RFW#: 96GVB075-MB1

Ethylbenzene	101	%
Styrene	93	%
Bromoform	106	%
1,1,2,2-Tetrachloroethane	108	%
Xylene (total)	91	%

*= Outside of EPA CLP QC Limits.

12A



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Wednesday May 22nd, 1996

Attn: Ms. Tammy Edgington

RE: B-5A
Project # 06720-020-002-0108
Lab ID: 9605L215-001
Sample Date: 05/13/96
Date Received: 05/14/96
Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Wednesday May 22nd, 1996

RE: B-9A

Project # 06720-020-002-0108

Lab ID: 9605L215-005

Sample Date: 05/13/96

Date Received: 05/14/96

Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Wednesday May 22nd. 1996

Attn: Ms. Tammy Edgington

RE: B-4B
Project # 06720-020-002-0108
Lab ID: 9605L215-006
Sample Date: 05/13/96
Date Received: 05/14/96
Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Wednesday May 22nd, 1996

RE: B-4A
Project # 06720-020-002-0108
Lab ID: 9605L215-009
Sample Date: 05/13/96
Date Received: 05/14/96
Units: ug/Kg

Attn: Ms. Tammy Edgington

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Wednesday May 22nd, 1996

Attn: Ms. Tammy Edgington

RE: B-5B
Project # 06720-020-002-0108
Lab ID: 9605L215-014
Sample Date: 05/13/96
Date Received: 05/14/96
Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Weston Environmental Metrics, Inc. (Gulf Coast)

SEMIVOLATILES BY GC/MS, SPECIAL LIST

Report Date: 05/22/96 11:04

RFW Batch Number: 9605L215

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 1a

Cust ID:		B1-1	B1-1	B1-1	B1-1	B1-2	B1-2
Sample Information	RFW#:	002	002 DL	002 MS	002 MSD	003	003 DL
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1	5	1	1	1	50
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate Recovery	2-Fluorophenol	72 %	0 %	74 %	76 %	63 %	0 %
	Phenol-d5	82 %	0 %	82 %	85 %	81 %	0 %
	Nitrobenzene-d5	69 %	0 %	70 %	74 %	72 %	0 %
	2-Fluorobiphenyl	71 %	0 %	77 %	77 %	69 %	0 %
	2,4,6-Tribromophenol	81 %	0 %	61 %	58 %	80 %	0 %
	p-Terphenyl-d14	72 %	0 %	94 %	94 %	84 %	0 %
bis(2-Ethylhexyl)phthalate		14000 E	27000 D	142 %	270 %	64000 E	150000 D

MYS 122/96

Cust ID:		FB03S	SBLKIC	SBLKIC BS	SBLKIC BSD	SBLKHx	SBLKHx BS
Sample Information	RFW#:	004	96GB0238-MB1	96GB0238-MB1	96GB0238-MB1	96GB0240-MB1	96GB0240-MB1
	Matrix:	WATER	SOIL	SOIL	SOIL	WATER	WATER
	D.F.:	1	1	1	1	1	1
	Units:	UG/L	UG/KG	UG/KG	UG/KG	UG/L	UG/L
Surrogate Recovery	2-Fluorophenol	46 %	68 %	63 %	60 %	48 %	67 %
	Phenol-d5	47 %	79 %	70 %	67 %	50 %	70 %
	Nitrobenzene-d5	51 %	71 %	61 %	54 %	53 %	80 %
	2-Fluorobiphenyl	60 %	68 %	77 %	67 %	58 %	86 %
	2,4,6-Tribromophenol	67 %	69 %	75 %	74 %	66 %	90 %
	p-Terphenyl-d14	85 %	67 %	88 %	96 %	99 %	83 %
bis(2-Ethylhexyl)phthalate		8 J	330 U	75 %	85 %	10 U	98 %

*= Outside of EPA CLP QC limits.

SEMIVOLATILES BY GC/MS, SPECIAL LIST

RFW Batch Number: 9605L215

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 2a

Cust ID: SBLKHX BSD

Sample Information

RFW#: 96GB0240-MB1

Matrix: WATER

D.F.: 1

Units: UG/L

Surrogate Recovery	2-Fluorophenol	69	%
	Phenol-d5	75	%
	Nitrobenzene-d5	85	%
	2-Fluorobiphenyl	87	%
	2,4,6-Tribromophenol	100	%
	p-Terphenyl-d14	101	%
=====f1=====f1=====f1=====f1=====f1=====			
	bis(2-Ethylhexyl)phthalate	* 105	%

*= Outside of EPA CLP QC limits.

Weston Environmental Metrics, Inc. (Gulf Coast)

SEMIVOLATILES BY GC/MS, SPECIAL LIST

Report Date: 05/29/96 16:20

RFW Batch Number: 9605L233

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 28

Cust ID:		B4-2	B4-2	B5-1	B5-1	B6-1	B6-1
Sample Information		RFW#: 006	006 DL	007	007 DL	008	008 DL
		Matrix: SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		D.F.: 1	40	1	10	1	2
		Units: UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate Recovery	2-Fluorophenol	73 %	0 %	79 %	0 %	78 %	0 %
	Phenol-d5	65 %	0 %	69 %	0 %	63 %	0 %
	Nitrobenzene-d5	75 %	0 %	85 %	0 %	74 %	0 %
	2-Fluorobiphenyl	84 %	0 %	90 %	0 %	87 %	0 %
	2,4,6-Tribromophenol	116 %	0 %	123 %	0 %	110 %	0 %
	p-Terphenyl-d14	117 %	0 %	130 %	0 %	122 %	0 %
bis(2-Ethylhexyl)phthalate		E	130000	E	40000	E	5700

Cust ID:		B6-2	FB-04S	SBLKIQ	SBLKIQ BS	SBLKIQ BSD	SBLKHY
Sample Information		RFW#: 009	010	96GB0254-MB1	96GB0254-MB1	96GB0254-MB1	96GB0246-MB1
		Matrix: SOIL	WATER	SOIL	SOIL	SOIL	WATER
		D.F.: 1	1	1	1	1	1
		Units: UG/KG	UG/L	UG/KG	UG/KG	UG/KG	UG/L
Surrogate Recovery	2-Fluorophenol	66 %	68 %	37 %	82 %	76 %	74 %
	Phenol-d5	57 %	69 %	34 %	82 %	79 %	70 %
	Nitrobenzene-d5	69 %	87 %	39 %	88 %	84 %	84 %
	2-Fluorobiphenyl	78 %	82 %	44 %	95 %	89 %	78 %
	2,4,6-Tribromophenol	109 %	76 %	42 %	105 %	90 %	89 %
	p-Terphenyl-d14	109 %	86 %	49 %	99 %	94 %	61 %
bis(2-Ethylhexyl)phthalate		2600	18 B	330 U	92 %	93 %	3 J

*= Outside of EPA CLP QC limits.

Weston Environmental Metrics, Inc. (Gulf Coast)

SEMIVOLATILES BY GC/MS, SPECIAL LIST

Report Date: 05/29/96 16:20

RFW Batch Number: 9605L233

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 1a

Cust ID:		B2A-1	B2A-1	B2A-1	B2A-1	B2A-2	B2A-2
Sample Information		RFW#: 001	001 DL	001 MS	001 MSD	002	002 DL
		Matrix: SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		D.F.: 1	10	1	1	1	50
		Units: UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate Recovery	2-Fluorophenol	27 %	0 D %	61 %	80 %	25 %	0 D %
	Phenol-d5	23 * %	0 %	60 %	74 %	24 %	0 %
	Nitrobenzene-d5	26 %	0 %	60 %	74 %	25 %	0 %
	2-Fluorobiphenyl	38 %	0 %	60 %	80 %	30 %	0 %
	2,4,6-Tribromophenol	41 %	0 %	74 %	96 %	30 %	0 %
	p-Terphenyl-d14	37 %	0 %	80 %	95 %	35 %	0 %
=====f]=====f]=====f]=====f]=====f]=====f]=====f]							
bis(2-Ethylhexyl)phthalate		E	39000	90 %	29 %	E	220000

Cust ID:		B3-1	B3-1	B3-2	B3-2	B4-1	B4-1
Sample Information		RFW#: 003	003 DL	004	004 DL	005	005 DL
		Matrix: SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		D.F.: 1	10	2	200	1	10
		Units: UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate Recovery	2-Fluorophenol	72 %	0 D %	11 * %	0 D %	64 %	0 D %
	Phenol-d5	63 %	0 %	41 %	0 %	49 %	0 %
	Nitrobenzene-d5	74 %	0 %	21 * %	0 %	67 %	0 %
	2-Fluorobiphenyl	86 %	0 %	40 %	0 %	76 %	0 %
	2,4,6-Tribromophenol	104 %	0 %	50 %	0 %	95 %	0 %
	p-Terphenyl-d14	106 %	0 %	58 %	0 %	103 %	0 %
=====f]=====f]=====f]=====f]=====f]=====f]=====f]							
bis(2-Ethylhexyl)phthalate		E	49000	E	790000	E	47000

*= Outside of EPA CLP QC limits.

Weston Environmental Metrics, Inc. (Gulf Coast)

SEMIVOLATILES BY GC/MS, SPECIAL LIST

Report Date: 05/29/96 16:20

RFW Batch Number: 9605L233

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 3a

Cust ID: SBLKHY BS SBLKHY BSD

Sample
Information

RFW#: 96GB0246-MB1 96GB0246-MB1
Matrix: WATER WATER
D.F.: 1 1
Units: UG/L UG/L

	2-Fluorophenol	62	%	74	%
Surrogate	Phenol-d5	67	%	72	%
Recovery	Nitrobenzene-d5	75	%	85	%
	2-Fluorobiphenyl	83	%	87	%
	2,4,6-Tribromophenol	126 *	%	117	%
	p-Terphenyl-d14	98	%	94	%
=====f]=====f]=====f]=====f]=====f]=====f]					
	bis(2-Ethylhexyl)phthalate	104	%	106	%

*= Outside of EPA CLP QC limits.

028

Weston Environmental Metrics, Inc.

2417 Bond Street

University Park, Illinois 60466-3182

Phones: (708) 534-5200 (219) 885-7077 (815) 723-7533

Fax: (708) 534-5211

To: L.E. Carpenter
Roy F. Weston, Incorporated
4th Floor, Raritan Center
Edison, NJ 08837-3616

Date: Monday June 3rd, 1996

Attn: Ms. Laura Amend

RE: 4-DEL-7

Project # 06720-020-002-0109

Lab ID: 9605G320-016

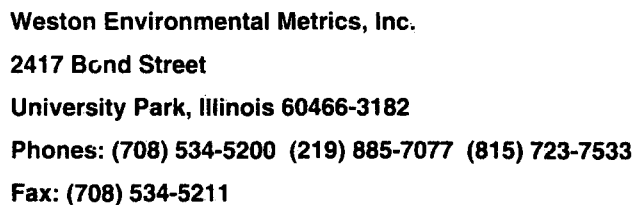
Sample Date: 05/17/96

Date Received: 05/21/96

Units: ug/Kg

SEMIVOLATILES BY GC/MS, SPECIAL LIST

[illegible]



RE: **C-7-A**
Project # 06720-020-002-0109
Lab ID: **9605G339-007**
Sample Date: 05/20/96
Date Received: 05/22/96

[illegible]



Weston Environmental Metrics, Inc.

2417 Bond Street

University Park, Illinois 60466-3182

Phones: (708) 534-5200 (219) 885-7077 (815) 723-7533

Fax: (708) 534-5211

To: L.E. Carpenter
Roy F. Weston, Incorporated
4th Floor, Raritan Center
Edison, NJ 08837-3616

Attn: Ms. Laura Amend

Date: Tuesday June 11th, 1996

RE: C-10-B

Project # 06720-020-002-0109

Lab ID: 9605G339-008

Sample Date: 05/20/96

Date Received: 05/22/96

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
% Solids	87.5	%	0.10
Lead, Total	1890	mg/kg	1.9

Fax: (708) 534-5211

To: L.E. Carpenter
Roy F. Weston, Incorporated
4th Floor, Raritan Center
Edison, NJ 08837-3616

Attn: Ms. Laura Amend

Date: Tuesday June 11th, 1996

RE: 4-DEL-8

Project # 06720-020-002-0109

Lab ID: 9605G320-017

Sample Date: 05/17/96

Date Received: 05/21/96

Inorganic Data Report

[illegible]



APPENDIX D

SOIL BORING LOGS

APPENDIX D-1
MONITORING WELL
PILOT HOLE LOGS

Borehole Log

Roy F. WESTON, Inc.

PROJECT : LECARPENTER	TOTAL DEPTH : 17.00
SITE NAME : LE CARPENTER	LOGGER : HACKETT/BURNS
BORING ID : MW-12R	DRILLING COMPANY : SUMMIT DRILLING, INC.
NORTHING : 0.0000 estimated	DRILLING RIG : GUS PECH AIR RIG
EASTING : 0.0000 estimated	DATE STARTED : 05/07/96
ELEVATION : 0.000 estimated	DATE COMPLETED : 05/07/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
-1	1		20	SAND, lt SILT, lt GRAVEL	DK BROWN	LSE	MST	5 6 9	OVM 0.0	ASH-LIKE MATERIAL PRESENT
-2	2		15	SAND, lt GRAVEL, lt SILT	DARK BROWN	LSE	WET	9 10 14	OVM 0.0	ASH-LIKE MATERIAL IS PRESENT.
-3	3									
-4	4		20	SAND, sm SILT, lt GRAVEL, lt CLAY	DK BROWN	LSE	SAT	6 7 8	OVM 0.0	Groundwater encountered approximately 4 ft below grade. Pieces of brick are present and wood.
-5	5									
-6	6		55	SAND, lt GRAVEL, lt SILT	DK BROWN	LSE	SAT	12 15 14 16	OVM 0.0	Pieces of wood are present.
-7	7			CLAY, sm SILT, lt SAND	DARK GRAY	SFT	MST		OVM 0.0	Pieces of mica present..
-8	8		30	SAND, lt GRAVEL, lt SILT	DARK GREY	LSE	SAT	12 30 50 50	OVM 734.0	Product noted on soil.
-9	9									
-10	10			SAND, lt SILT	GRAY	LSE	WET		OVM 0.0	Air rotary to 11 feet below grade.

Borehole Log

Roy F. WESTON, Inc.

PROJECT : LECARPENTER	TOTAL DEPTH : 17.00
SITE NAME : LE CARPENTER	LOGGER : HACKETT/BURNS
BORING ID : MW-12R	DRILLING COMPANY : SUMMIT DRILLING, INC.
NORTHING : 0.0000 estimated	DRILLING RIG : GUS PECH AIR RIG
EASTING : 0.0000 estimated	DATE STARTED : 05/07/96
ELEVATION : 0.000 estimated	DATE COMPLETED : 05/07/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
				SAND, lt SILT	GRAY	LSE	WET		OVM 0.0	Air rotary to 11 feet below grade.
-11	11		40	SAND, sm GRAVEL, lt SILT	Brown	LSE	SAT	13 10 10 7	OVM 319.0	Drager tube analysis for methylene chloride - No detections. Sheen noted.
-12	12									
-13	13		10	GRAVEL	GREY	LSE	DRY	25 27 30 17	OVM 58.0	PIECE OF GRAVEL BLOCKS RECOVERY
-14	14									
-15	15		25	SAND and GRAVEL, tr SILT	DK GREY	LSE	SAT	11 12 15 22	OVM 0.0	
-16	16									
-17	17									
-18	18									
-19	19									
-20	20									

Borehole Log

Roy F. WESTON, Inc.

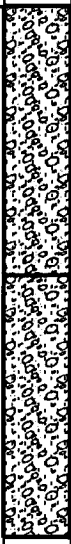
PROJECT : LECARPENTER	TOTAL DEPTH : 14.00
SITE NAME : LE CARPENTER	LOGGER : HACKETT/BURNS
BORING ID : MW-26	DRILLING COMPANY : SUMMIT DRILLING
NORTHING : 0.0000 estimated	DRILLING RIG : GUS PECH AIR RIG
EASTING : 0.0000 estimated	DATE STARTED : 05/07/96
ELEVATION : 0.000 estimated	DATE COMPLETED : 05/08/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
			100	CLAY and GRAVEL	BLACK	STF	DRY		OVM 0.0	Material is asphalt.
-1	1		20	CLAY, sm SILT, sm SAND, lt GRAVEL, lt ORGANIC	DK. GREY	LSE	MST	35 40 50	OVM 0.0	Organic-rich material with trace mica present.
-2	2									
-3	3		20	CLAY, sm SILT, sm SAND, lt GRAVEL, lt ORGANIC	DK GREY	NA	SAT	31 38 38	OVM 0.0	Groundwater encountered at approximately 3 feet below grade. Material is organic-rich, trace mica.
-4	4									
-5	5		60	CLAY, sm SILT, sm SAND, lt GRAVEL	DK GREY	NA	MST	300 0 0	OVM 0.0	Refusal encountered at 5.5 feet below grade.
-6	6			GRAVEL, tr SAND, tr SILT	GRAY	STF	SAT		OVM 0.0	Attempt spoon at 6 feet below grade, and encounter refusal. Air rotary to 9 feet.
-7	7		75	SAND, sm GRAVEL, lt SILT	OLIVE/GRAY	LSE	SAT	48 48 50 0	OVM 0.0	Refusal encountered at 8.2 feet below grade.
-8	8		100	SAND and GRAVEL, lt SILT	GRAY	LSE	SAT		OVM 0.0	Material drilled through. Soil classified by cuttings.
-9	9									
-10	10									

Borehole Log

Roy F. WESTON, Inc.

PROJECT : LECARPENTER	TOTAL DEPTH : 14.00
SITE NAME : LE CARPENTER	LOGGER : HACKETT/BURNS
BORING ID : MW-26	DRILLING COMPANY : SUMMIT DRILLING
NORTHING : 0.0000 estimated	DRILLING RIG : GUS PECH AIR RIG
EASTING : 0.0000 estimated	DATE STARTED : 05/07/96
ELEVATION : 0.000 estimated	DATE COMPLETED : 05/08/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
-11	11		50	SAND and GRAVEL, lt SILT	GRAY	LSE	SAT		OVM 0.0	Material drilled through. Soil classified by cuttings.
-12	12			SAND, sm GRAVEL, lt SILT	GREEN/GRAY	LSE	SAT		OVM 0.0	Blow counts not recorded.
-13	13									
-14	14									
-15	15									
-16	16									
-17	17									
-18	18									
-19	19									
-20	20									



APPENDIX D-2

SOIL BORING LOGS - MW19 DELINEATION

Borehole Log

Roy F. WESTON, Inc.


PROJECT :	LECARPENTER	TOTAL DEPTH :	15.00
SITE NAME :	MW-19 DELINEATION	LOGGER :	BURNS/HACKETT
BORING ID :	B-1-MW19	DRILLING COMPANY :	SUMMIT DRILLING, INC.
NORTHING :	0.0000 estimated	DRILLING RIG :	GUS PECH AIR RIG
EASTING :	0.0000 estimated	DATE STARTED :	05/10/96
ELEVATION :	0.000 estimated	DATE COMPLETED :	05/10/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
			65	SAND, sm SILT, lt GRAVEL, lt ORGANIC	BROWN	LSE	MST	10 11 17 15	OVM 0.0	Soil sample B-1A and it's duplicate B-1C collected at 0.6 to 1.2 feet below grade.
-1	1			SAND and GRAVEL, lt SILT	BROWN/BLACK	LSE	DRY		OVM 0.0	
-2	2		50	SAND, sm GRAVEL, sm SILT	DARK BROWN	LSE	WET	20 22 50 0	OVM 0.0	Air rotary to 4 feet.
-3	3									
-4	4		20	GRAVEL and ORGANIC, lt SAND, tr SILT	BROWN	LSE	WET	50 0 0 0	OVM 0.0	Air rotary to 11 feet. Attempt split spoon samples at 4, 7 and 9 feet below grade.
-5	5									
-6	6		100	SAND, sm GRAVEL, lt SILT	BROWN/GRAY	LSE	DRY		OVM 0.0	Soil classification based on cuttings. Boulders encountered throughout the 6 to 11 depth interval.
-7	7									
-8	8									
-9	9									
-10	10									

Borehole Log

Roy F. WESTON, Inc.

PROJECT : LECARPENTER	TOTAL DEPTH : 15.00
SITE NAME : MW-19 DELINEATION	LOGGER : BURNS/HACKETT
BORING ID : B-1-MW19	DRILLING COMPANY : SUMMIT DRILLING, INC.
NORTHING : 0.0000 estimated	DRILLING RIG : GUS PECH AIR RIG
EASTING : 0.0000 estimated	DATE STARTED : 05/10/96
ELEVATION : 0.000 estimated	DATE COMPLETED : 05/10/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
-11	11		15	SAND, sm GRAVEL, lt SILT	BROWN/GRAY	LSE	DRY		OVM 0.0	Soil classification based on cuttings. Boulders encountered throughout the 6 to 11 depth interval.
-12	12			SAND and GRAVEL, lt SILT	GRAY/BROWN	LSE	DRY	50 50 00	OVM 0.0	Material is possible run down. Air rotary 15 approximately 15 feet. Boulders encountered.
-13	13		100	Not Classified - Incomplete Data						Material drilled through.
-14	14									
-15	15									
-16	16									
-17	17									
-18	18									
-19	19									
-20	20									

Borehole Log

Roy F. WESTON, Inc.


PROJECT :	LECARPENTER	TOTAL DEPTH :	15.00
SITE NAME :	MW-19 DELINEATION	LOGGER :	BURNS/HACKETT
BORING ID :	B-2-MW19	DRILLING COMPANY :	SUMMIT DRILLING, INC.
NORTHING :	0.0000 estimated	DRILLING RIG :	GUS PECH AIR RIG
EASTING :	0.0000 estimated	DATE STARTED :	05/10/96
ELEVATION :	0.000 estimated	DATE COMPLETED :	05/10/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
			100	SAND, sm GRAVEL, lt SILT	GRAY/BROWN/TAN	LSE	DRY	5	OVM 0.0	
-1	1									
-2	2		85	SAND, sm GRAVEL, sm SILT	YEL BR/GRAY	LSE	DRY	12	OVM 0.0	
-3	3			SAND, sm SILT, lt GRAVEL	RED BR/BR	LSE	DRY		OVM 0.0	Roots present.
-4	4		70	SAND, sm SILT, lt GRAVEL, tr ORGANIC	YEL BR/GRAY	LSE	DRY	6	OVM 1.0	Roots present. Sample B-2A collected from 4.7 to 5.3 feet below grade.
-5	5									
-6	6		30	SAND, sm GRAVEL, sm SILT	YEL BR/TAN	LSE	WET	6	OVM 0.0	
-7	7									
-8	8		10	SAND, lt GRAVEL, lt SILT	YEL BR/BR	LSE	WET	17	OVM 0.0	
-9	9									
-10	10		70	SAND, sm GRAVEL, lt SILT	GRAY/TAN	LSE	DRY	15	OVM 0.0	Sample B-2B collected at 9.8 to 10.3 feet below grade.

Borehole Log

Roy F. WESTON, Inc.

PROJECT :	LECARPENTER	TOTAL DEPTH :	15.00
SITE NAME :	MW-19 DELINEATION	LOGGER :	BURNS/HACKETT
BORING ID :	B-2-MW19	DRILLING COMPANY :	SUMMIT DRILLING, INC.
NORTHING :	0.0000 estimated	DRILLING RIG :	GUS PECH AIR RIG
EASTING :	0.0000 estimated	DATE STARTED :	05/10/96
ELEVATION :	0.000 estimated	DATE COMPLETED :	05/10/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
-11	11		10	SAND, sm GRAVEL, lt SILT	GRAY/TAN	LSE	DRY		OVM 0.0	Sample B-28 collected at 9.8 to 10.3 feet below grade.
-12	12			SAND and GRAVEL, lt SILT	YEL BR	LSE	SAT	50000	OVM 0.0	
-13	13		100	Not Classified - Incomplete Data						Material drilled through.
-14	14									
-15	15									
-16	16									
-17	17									
-18	18									
-19	19									
-20	20									

Borehole Log

Roy F. WESTON, Inc.

PROJECT : LECARPENTER
 SITE NAME : MW-19 DELINEATION
 BORING ID : B-3-MW19
 NORTHING : 0.0000 estimated
 EASTING : 0.0000 estimated
 ELEVATION : 0.000 estimated

TOTAL DEPTH : 14.00
 LOGGER : BURNS/HACKETT
 DRILLING COMPANY : SUMMIT DRILLING, INC.
 DRILLING RIG : GUS PECH AIR RIG
 DATE STARTED : 05/10/96
 DATE COMPLETED : 05/10/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
			80	SAND, sm SILT, lt ORGANIC, tr GRAVEL	BROWN	LSE	MST	17 17 6	OVM 0.0	Topsoil.
-1	1			SAND, lt GRAVEL, lt SILT	GRAY/BROWN	LSE	MST		OVM 0.0	Ash-like material present Soil sample 8-3A collected from 1 to 1.4 feet below grade.
-2	2			SAND, lt GRAVEL, lt SILT	GRAY	LSE	MST	8 10 10 14	OVM 0.0	No recovery. Classification extended.
-3	3									
-4	4		30	SAND and GRAVEL, lt SILT	BROWN	LSE	WET	12 14 14 18	OVM 0.0	Pieces of brick and cinders present.
-5	5									
-6	6		10	SAND, lt GRAVEL, tr SILT	GRAY/BLACK	LSE	MST	7 10 10 2	OVM 0.0	Ash-like material present
-7	7									
-8	8		60	SAND, lt GRAVEL, tr SILT	GRAY/BLACK	LSE	MST	8 10 10 5	OVM 0.0	Sample 8-3B collected at 8.3 to 8.7 feet below grade.
-9	9			SILT, sm CLAY, sm GRAVEL, lt SAND	YEL BR/GRAY	SFT	MST		OVM 0.0	
-10	10		100	Not Classified - Incomplete Data						Material drilled through.

Borehole Log**Roy F. WESTON, Inc.**

PROJECT	: LECARPENTER	TOTAL DEPTH	: 14.00
SITE NAME	: MW-19 DELINEATION	LOGGER	: BURNS/HACKETT
BORING ID	: B-3-MW19	DRILLING COMPANY	: SUMMIT DRILLING, INC.
NORTHING	: 0.0000 estimated	DRILLING RIG	: GUS PECH AIR RIG
EASTING	: 0.0000 estimated	DATE STARTED	: 05/10/96
ELEVATION	: 0.000 estimated	DATE COMPLETED	: 05/10/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
-11	11			Not Classified - Incomplete Data						Material drilled through.
-12	12									
-13	13									
-14	14									
-15	15									
-16	16									
-17	17									
-18	18									
-19	19									
-20	20									

Borehole Log

Roy F. WESTON, Inc.

PROJECT :	LECARPENTER	TOTAL DEPTH :	15.00
SITE NAME :	MW-19 DELINEATION	LOGGER :	BURNS/HACKETT
BORING ID :	B-4-MW19	DRILLING COMPANY :	SUMMIT DRILLING INC.
NORTHING :	0.0000 estimated	DRILLING RIG :	GUS PECH AIR RIG
EASTING :	0.0000 estimated	DATE STARTED :	05/13/96
ELEVATION :	0.000 estimated	DATE COMPLETED :	05/13/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
			100	SAND and SILT, tr GRAVEL	BROWN	LSE	MST	10	OVM 0.9	Roots present.
				SAND, sm SILT, lt GRAVEL	RED BR/YEL	LSE	DRY	12	OVM 0.9	
-1	1			SAND, sm GRAVEL, lt SILT	BLACK	LSE	DRY		OVM 0.9	Ash-like material present Soil sample B-4A collected from 1.5 to 2 feet below grade.
-2	2		70	SAND, sm GRAVEL, lt SILT	BLACK	LSE	DRY	14 15 17 23	OVM 0.9	Ash-like material present
-3	3			SAND, sm GRAVEL, lt SILT	RED BR/YEL BR	LSE	WET		OVM 0.9	
-4	4		100	GRAVEL, sm SAND, lt SILT	YEL BR/GRAY	LSE	MST	12 12 34 35	OVM 0.0	Pieces of granite gneiss present.
-5	5									
-6	6		15	GRAVEL, sm SILT, lt SAND, lt CLAY	YEL BR	SFT	WET	50 0 0	OVM 0.0	Pieces of gravel are present.
-7	7									
-8	8		75	SAND, sm GRAVEL, lt SILT	YEL BR/GRAY	LSE	WET	18 25 27 30	OVM 0.0	Groundwater encountered at approximately 9 feet below grade. Sample B-4B collected at 8.5 to 9 ft.
-9	9									
-10	10		70	SAND, sm SILT	DARK GRAY	LSE	SAT		OVM 248.0	Strong odor is noted.

Borehole Log

Roy F. WESTON, Inc.

PROJECT : LECARPENTER
 SITE NAME : MW-19 DELINEATION
 BORING ID : B-4-MW19
 NORTHING : 0.0000 estimated
 EASTING : 0.0000 estimated
 ELEVATION : 0.000 estimated

TOTAL DEPTH : 15.00
 LOGGER : BURNS/HACKETT
 DRILLING COMPANY : SUMMIT DRILLING INC.
 DRILLING RIG : GUS PECH AIR RIG
 DATE STARTED : 05/13/96
 DATE COMPLETED : 05/13/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
				SAND, sm SILT	DARK GRAY	LSE	SAT		OVM 248.0	Strong odor is noted.
				SAND, lt GRAVEL, lt SILT	YEL BR	LSE	SAT		OVM 248.0	
-11	11									
-12	12		100	Not Classified - Incomplete Data						Readings of 338 units in breathing zone. Air rotary to 15 feet below grade.
-13	13									
-14	14									
-15	15									
-16	16									
-17	17									
-18	18									
-19	19									
-20	20									

Borehole Log

Roy F. WESTON, Inc.

PROJECT :	LECARPENTER	TOTAL DEPTH :	14.00
SITE NAME :	MW-19 DELINEATION	LOGGER :	BURNS/HACKETT
BORING ID :	B-5-MW19	DRILLING COMPANY :	SUMMIT DRILLING INC.
NORTHING :	0.0000 estimated	DRILLING RIG :	GUS PECH AIR RIG
EASTING :	0.0000 estimated	DATE STARTED :	05/13/96
ELEVATION :	0.000 estimated	DATE COMPLETED :	05/13/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
			50	Not Classified - Incomplete Data	BLACK	STF	DRY	13	OVM 0.0	Material is asphalt.
				SAND, lt GRAVEL, lt SILT	YEL BR/BR/RED	LSE	DRY	18	OVM 0.0	
								20		
-1	1									
-2	2			SAND, lt GRAVEL, lt SILT	YEL BR/BR/RED	LSE	DRY		OVM 0.0	No material recovered. Classification extended.
-3	3									
-4	4		30	SAND, sm GRAVEL, lt SILT	BROWN	LSE	DRY	11	OVM 0.0	
-5	5							15		Soil sample B-5A collected from 4.1 to 4.4 feet below grade.
-6	6		30	SAND, lt GRAVEL, lt SILT	BROWN	LSE	MST	16	OVM 0.0	
-7	7							24		
-8	8		100	SAND and GRAVEL, lt SILT	GRAY/GRAY BR	LSE	SAT	21	OVM 0.0	Blow counts were not recorded.
-9	9							33		
-10	10		100	Not Classified - Incomplete Data						

Borehole Log

Roy F. WESTON, Inc.

PROJECT	: LECARPENTER	TOTAL DEPTH	: 14.00
SITE NAME	: MW-19 DELINEATION	LOGGER	: BURNS/HACKETT
BORING ID	: B-5-MW19	DRILLING COMPANY	: SUMMIT DRILLING INC.
NORTHING	: 0.0000 estimated	DRILLING RIG	: GUS PECH AIR RIG
EASTING	: 0.0000 estimated	DATE STARTED	: 05/13/96
ELEVATION	: 0.000 estimated	DATE COMPLETED	: 05/13/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
				Not Classified - Incomplete Data						Material drilled through.
-11	11									
-12	12									
-13	13									
-14	14									
-15	15									
-16	16									
-17	17									
-18	18									
-19	19									
-20	20									

Borehole Log

Roy F. WESTON, Inc.

PROJECT : LECARPENTER	TOTAL DEPTH : 13.00
SITE NAME : MW-19 DELINEATION	LOGGER : BURNS/HACKETT
BORING ID : B-6-MW19	DRILLING COMPANY : SUMMIT DRILLING, INC.
NORTHING : 0.0000 estimated	DRILLING RIG : GUS PECH AIR RIG
EASTING : 0.0000 estimated	DATE STARTED : 05/09/96
ELEVATION : 0.000 estimated	DATE COMPLETED : 05/09/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
			80	SAND, sm SILT, tr GRAVEL, tr ORGANIC	BROWN	LSE	MST	17	OVM 0.0	Topsoil.
				SAND, lt SILT, tr GRAVEL	YEL BR	LSE	DRY	35	OVM 0.0	
-1	1									
				SILT, sm SAND, sm GRAVEL, lt CLAY, lt ORGANIC	DARK BROWN	LSE	MST		OVM 0.4	Sample B-6A collected at 1.1 to 1.5 feet below grade.
-2	2		30	SAND, sm SILT, lt CLAY, lt GRAVEL, lt ORGANIC	DK GRAY/BROWN	LSE	MST	18	OVM 0.0	Refusal at approximately 3 feet. Air rotary to 4 feet.
								50		
								0		
-3	3		100	SAND, sm GRAVEL, lt SILT	YEL BR/BR/GRAY	LSE	MST		OVM 0.0	Material drilled. Soil classified by cuttings.
-4	4		100	SAND, sm GRAVEL, lt SILT	YEL BR/BR/GRAY	LSE	MST	40	OVM 0.0	
								53		
								41		
								50		
-5	5									
-6	6		30	GRAVEL, sm SILT, sm CLAY, lt SAND	YEL BR	LSE	MST	10	OVM 0.0	Groundwater encountered at 6.4 feet below grade.
								7		
								12		
								12		
-7	7									
-8	8		100	Not Classified - Incomplete Data						Material drilled through.
-9	9									
-10	10									

Borehole Log**Roy F. WESTON, Inc.**

PROJECT	: LECARPENTER	TOTAL DEPTH	: 13.00
SITE NAME	: MW-19 DELINEATION	LOGGER	: BURNS/HACKETT
BORING ID	: B-6-MW19	DRILLING COMPANY	: SUMMIT DRILLING, INC.
NORTHING	: 0.0000 estimated	DRILLING RIG	: GUS PECH AIR RIG
EASTING	: 0.0000 estimated	DATE STARTED	: 05/09/96
ELEVATION	: 0.000 estimated	DATE COMPLETED	: 05/09/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
-11	11			Not Classified - Incomplete Data						Material drilled through.
-12	12									
-13	13									
-14	14									
-15	15									
-16	16									
-17	17									
-18	18									
-19	19									
-20	20									

Borehole Log

Roy F. WESTON, Inc.

PROJECT : LECARPENTER	TOTAL DEPTH : 12.00
SITE NAME : MW-19 DELINEATION	LOGGER : BURNS/HACKETT
BORING ID : B-7-MW19	DRILLING COMPANY : SUMMIT DRILLING INC.
NORTHING : 0.0000 estimated	DRILLING RIG : GUS PECH AIR ROTARY
EASTING : 0.0000 estimated	DATE STARTED : 05/09/96
ELEVATION : 0.000 estimated	DATE COMPLETED : 05/09/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
			100	SAND, sm GRAVEL, lt SILT	YEL BR/BR	LSE	MST	17 20 22	OVM 0.0	Sample B-7A collected at 1.5 to 2 feet below grade
-1	1									
-2	2		80	SAND, sm SILT, lt GRAVEL	YEL BR/BR	LSE	MST	41 43 50	OVM 0.0	Possible fill material.
-3	3									
-4	4		100	SAND, lt SILT	BROWN	LSE	MST		OVM 0.0	Material drilled through. Boulder present (?). Classification extended.
-5	5		65	SAND, sm GRAVEL, sm SILT	BR/YEL BR/GRAY	LSE	MST	31 39 16	OVM 0.0	Sample B-7B collected at 5.9 to 6.3 feet below grade.
-6	6									
-7	7		35	SAND, lt GRAVEL, lt SILT, lt ORGANIC	YEL BR	LSE	SAT	20 40	OVM 0.4	Groundwater encountered at approximately 7 feet.
				SILT, sm SAND, sm CLAY, lt ORGANIC	YEL BR	SFT	SAT	42 43	OVM 0.4	
-8	8									
-9	9		100	Not Classified - Incomplete Data		LSE	SAT		OVM 0.0	Material drilled through.
-10	10									

Borehole Log

Roy F. WESTON, Inc.

PROJECT	: LECARPENTER	TOTAL DEPTH	: 12.00
SITE NAME	: MW-19 DELINEATION	LOGGER	: BURNS/HACKETT
BORING ID	: B-7-MW19	DRILLING COMPANY	: SUMMIT DRILLING INC.
NORTHING	: 0.0000 estimated	DRILLING RIG	: GUS PECH AIR ROTARY
EASTING	: 0.0000 estimated	DATE STARTED	: 05/09/96
ELEVATION	: 0.000 estimated	DATE COMPLETED	: 05/09/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
				Not Classified - Incomplete Data		LSE	SAT		OVM 0.0	Material drilled through.
-11	11									
-12	12									
-13	13									
-14	14									
-15	15									
-16	16									
-17	17									
-18	18									
-19	19									
-20	20									

Borehole Log

Roy F. WESTON, Inc.

PROJECT : LECARPENTER	TOTAL DEPTH : 6.00
SITE NAME : MW-19 DELINEATION	LOGGER : BURNS/HACKETT
BORING ID : B-8-MW19	DRILLING COMPANY : SUMMIT DRILLING INC.
NORTHING : 0.0000 estimated	DRILLING RIG : GUS PECH AIR RIG
EASTING : 0.0000 estimated	DATE STARTED : 05/09/96
ELEVATION : 0.000 estimated	DATE COMPLETED : 05/09/96

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
			90	SAND, lt GRAVEL, lt SILT	BR/YEL BR	LSE	DRY	19 20 22 23	OVM 0.0	Pieces of concrete present.
-1	1			SAND, sm GRAVEL, lt SILT	GRAY/BLACK	LSE	DRY		OVM 0.0	Pieces of glass present. Sample 8-8A collected at 1 to 1.5 feet below grade
-2	2		55	SAND, sm GRAVEL, sm SILT	BR/BLACK	LSE	MST	43 37 19 19	OVM 0.0	Pieces of ash present. Sample 8-8B collected 2.3 to 2.7 feet below grade. at 2.7 feet below grade.
-3	3									
-4	4		15	SAND, lt SILT, tr GRAVEL	GRAY/GREEN	LSE	SAT	34 43 37 39	OVM 0.4	
-5	5									
-6	6									
-7	7									
-8	8									
-9	9									
-10	10									

BORING LOG
ROY F. WESTON, INC.

Client: LE Carpenter Site: MW-19 Delineation

Boring No: B-9 Work Assignment No: _____
Sample No: B-9A Time: 5/13/81 - 1125

Sample No: B2W-9 (F.W.) Time: 5/13/96 - 1310

Sample No: _____ Time: _____
Equipment: Split spoon

DEPTH (FT)	SOIL	DESCRIPTION	REMARKS
------------	------	-------------	---------

	CLASSIFICATION	DESCRIPTION	REMARKS
— 0 —	FILL	CONCRETE (Reinforced)	

		- JACK HAMMERED -
1		Intermixed Brown / Dark Brown / Reddish Brown c-m-f SAND, some (+) Clayey silt, wet.
2		<p>Groundwater encountered at approximately 1.7 feet below grade.</p> <p>Sample B-9A collected at 1.2 to 1.7 feet below grade.</p>



APPENDIX D-3

SOIL BORING LOGS - HOT SPOT 1 DELINEATION

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: HOT SPOT 1

Boring No: B1 Work Assignment No: _____

Sample No: B1-1 (8.1 to 8.6) Time: 1450 (5-13-96)

Sample No: B1-2 (10.3 to 10.8) Time: 1504 (5-13-96)

Sample No: _____ Time: _____

Equipment: Air Rotary, split spoon samplers
Spoon 8' to 10'; 10' to 12'

Depth 0 to 10, 10 to 12

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	FILL	Air rotary to 5 feet below grade.	<u>0 - 5'</u>
1			
2			
3			
4			
5	Boulder / Concrete	Stiff drilling resistance. Encounter boulder or concrete pad 5 to 7.5 ft. Cuttings at surface: Possible concrete.	<u>5' - 7.5'</u>
6			
7			
8	FILL	Air rotary to 8 feet below grade. Dk Brown c-m(+) - f SAND, little (+) m-f Gravel (angular), little silt; moist. Sample B1-1 collected at 8.1 to 8.6 feet below grade.	<u>B = 10'</u> <u>B.C. =</u> <u>7-15-50/1"</u> <u>OUM:</u> <u>0 units</u> <u>Rec: 0.7'</u>
9	SW		
10			

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: Hot Spot 1

Boring No: B1 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Rotary, Split Spore Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
<u>10</u>	SW	Br c-m(+)-f SAND, little (+) m-f Gravel, little silt; saturated. Product encountered at 10.3 to 10.8 feet below grade. Sample B1-2 collected at 10.3 to 10.8 feet below grade.	<u>10'-12'</u> <u>B.C.</u> NR <u>QUM:</u> 150 units <u>Rec:</u> NR
<u>11</u>			
<u>12</u>			
		Groundwater encountered at approximately 10 feet below grade.	

BORING LOG
ROY F. WESTON, INC.

Client: LE-Carpenter Site: Hot Spot

Boring No: B2A Work Assignment No: (Replacement for B-2)

Sample No: B2A-1 (8.8-9.3) Time: 1419 (5/14/96)

Sample No: B2A-2 (12.0-12.5) Time: 1430 (5/14/96)

Sample No: _____ Time: _____

Equipment: Air Rotary / Split Spoon Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0		4x Rotary to 6 feet below grade.	0-6'
0.5			
1			
1.5			
2			
2.5			
3			
3.5			
4			
4.5			
5			

BORING LOG

ROY F. WESTON, INC.

Client: LE. Carpenter Site: HOT SPOT 1

Boring No: B-2A Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Rotary / Split Spoon Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
5	ML	Yel Br Clayey SILT, some (+) m-f Sand, little m-f Gravel (rounded); wet.	6'-8' B.C. REC: 1.6' DIA: 0 units
5.5			
6			
6.5			
7			
7.5	ML	8'-9.2': Intermixed Yel/Br/Red Br/Br Clayey SILT, some (+) m-f Sand, little (-) m(-) f Gravel (rounded); moist.	8'-10' B.C. REC: 2' DIA: 0 units
8			
8.5			
9	SW	9.2-: Dark Gray/Br cc(-)-m-f SAND, little cc(-) Silt; wet. Sample B2A-1 collected at 8.8 to 9.3 feet below grade. Sample above the water table.	
9.5			
10			
		Air Rotary to 10.5	

BORING LOG
ROY F. WESTON, INC.

Client: LE - Carpenter Site: HOT SPOT 1

Boring No: B24 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ **Time:** _____

Equipment: Air Rotary / Split Spoon Samplers

[illegible]

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: Hot spot 1

Boring No: B2 Work Assignment No: _____

Sample No: B2-1 (8 to 9.1) Time: SAMPLES NOT FORWARDED

Sample No: B2-2 (8 to 9.1 - Dup) Time: " " "

Sample No: B2-3 (11.5 to 12) Time: " " "

Equipment: Air Rotary, Split Spoon Sampler
Spoon 8' to 10'; 10' to 12'; 12' to 14'

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SW	Air Rotary to 8 feet below grade.	0-8'
1			
2			
3			
4			
5			
6			
7			
8			
9		Yel Br / Gray c-m-f(-) SAND, little c-m Gravel (subangular), little (+) Silt; wet. Sample B2-1 and B2-2 collected from 8 to 9.1 feet below grade.	<u>8'-10'</u> <u>B.T.:</u> <u>16-18-16-14</u> <u>OVN. 2 units</u> <u>REC: 1.1'</u>
10			

BORING LOG
ROY F. WESTON, INC.

Client: LE Carpenter Site: Hot SPOT 1

Boring No: B2 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Rotary / Split Spoon Samplers

[illegible]

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: HOT SPOT 1

Boring No: B3 Work Assignment No: _____

Sample No: B3-1 (7 to 7.7) Time: 1012 (5-14-96)

Sample No: B3-2 (11.2 to 11.6) Time: 1017 (5-14-96)

Sample No: _____ Time: _____

Equipment: Air Rotary / Split Spoon Samplers
Spoon 7' to 9'; 11' to 12'

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0			
1		Air rotary to 7 feet below grade.	<u>0-7'</u>
2			
3			
4			
5			
6			
7			
8	GP	Gray c-m (+) GRAVEL, some (+) c-m-f (-) Sand, little (+) Silt; damp. Sample B3-1 collected 7.0 to 7.7 feet below grade.	<u>7-9'</u>
9			<u>B.C.</u>
			<u>12-15-25-27</u>
			<u>OVN: 3.2 units</u>
			<u>Rec: 0.7'</u>
			<u>9'-11'</u>
			<u>B.C.</u>
			<u>24-33-16-18</u>
			<u>OVN: 0</u>
			<u>REC: 0</u>

No Recovery.

BORING LOG
ROY F. WESTON, INC.

Client: LE Carpenter Site: HOT SPOT 1

Boring No: 33 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Rotary / Split Spoon Samplers

[illegible]

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: Hot Spot 1

Boring No: B4 Work Assignment No: _____

Sample No: B4-1 (6-6.8) Time: 1104 (5-14-96)

Sample No: B4-2 (6-6.8)-Duplicate Time: 1104 (5-14-96)

Sample No: _____ Time: _____

Equipment: Air Rotary / Split Spore Sampler
Spore 6' to 8'; 8' to 10'; 11'

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0		Air rotary to 6 feet	0-6'
1			
2			
3			
4			
5			
6			
7	SW	Dk brown c-m-f(-) SAND, some (-) c-m (+) - f Gravel (angular), little (+) Silt; wet - Sample B-4-1 and B4-2 collected 6.0 to 6.8 feet below grade.	6'-8' B.C. OUM: 3.2 units Rec: 0.8
8		No recovery	B'-10' B.C.: 33-50/ OUM: 0 REC: 0
9			
10			

BORING LOG
ROY F. WESTON, INC.

Client: LE Carpenter Site: Hot Spot 1

Boring No: B4 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Rotary / Split Spoon Sampler

[illegible]

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: Hot SPOT 1

Boring No: B5 Work Assignment No: _____

Sample No: B5-1 (0 to 8.5) Time: 1213 (5-14-96)

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air rotary / Split Spoon Sampler
Spoon 8' to 10'

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0		Air rotary to 6 feet.	0-6'
1			
2			
3			
4			
5			
6			
7		Encounter stiff drilling resistance, Air rotary to 8 feet.	6'-8' B.C.
8			OVM: 2 units REC: 0.8
9	SP/GI	Red Br / Br c-m SAND and c-m GRAVEL (angular to subangular), little silt; wet, bottom 0.4 saturated.	8'-10' B.C.
10		Sample B5-1 collected at 8.0 to 8.5 feet below grade. Groundwater encountered at approximately 8.4 feet below grade.	OVM: 2 units REC: 0.8'

BORING LOG
ROY F. WESTON, INC.

Client: LE Carpenter Site: Hot Spot 1

Boring No: B5 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Rotary / Split Spoon Sampler

[illegible]

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: Her SPOT 1

Boring No: B6 Work Assignment No: _____

Sample No: B6-1 (6.3 - 6.8) Time: 1240 (5-14-96)

Sample No: B6-2 (8.0 - 8.5) Time: 1245 (5-14-96)

Sample No: _____ Time: _____

Equipment: Air rotary / Split Spoon Samples
Spoon 6' to 8'; B' to 10';

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0		Air rotary to 6 feet.	<u>0-6'</u>
1		Boulders noted on sidewall of borehole.	
2			
3			
4			
5			
6	SW	Intermixed Lt Gray / Red Br c-m(+) f SAND, little (+) Silt, trace f. Gravel (subangular); moist, roots present. Sample B6-1 collected at 6.3 to 6.8 feet below grade.	<u>6'-8'</u> B.C.: 9-14-15-21 OVM: 2 units RSC: 0.8'
7			
8	SW	Intermixed Red Br / Br / Gray c-m(+) f SAND, little Silt; wet. Bottom 0.1 saturated. Sample B6-2 collected at 8 to 8.5 feet below grade.	<u>8'-10'</u> B.C.: 29-33-40-31 OVM: 2 units RSC: 0.7'
9			
10			

- Groundwater encountered at approximately 8.6 feet below grade.
- Attempt spoon at 10 feet. Split spoon breaks down hole.



APPENDIX D-4

SOIL BORING LOGS - HOT SPOT 4 DELINEATION

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: Hot Spot 4 Delmarston


Boring No: HS4-PES-10 Work Assignment No: _____

Sample No: HS4-PES-10B(7-7.8) Time: 0805 (5-17-96)

Sample No: HS4-PES-10C(9.5-10) Time: 0825 (5-17-96)

Sample No: _____ Time: _____

Equipment: Air Rotary / Spill Spoon sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0		Air rotary to 5 feet below grade. 	
0.5			
1			
1.5			
2			
2.5			
3			
3.5			
4			
4.5			
5			

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: HOT SPOT 4 Delineation

Boring No: HS4-PES-10 Work Assignment No: _____

Sample No: HS4-PES-10B (7-7.8) Time: _____

Sample No: HS4-PES-10C Time: _____

Sample No: _____ Time: _____

Equipment: Rotary / Split Spoon Samples

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
5	SW	Greenish Gray c-m-f (-) SAND, some m-f (angular) Gravel, little (+) Silt; saturated.	5'-7' B.C. REC: 0.4 O.V.M.
5.5			
6			
6.5			
7			
7.5	SW	Greenish Gray c-m-f SAND, some (-) c-m-f Gravel, little (-) Silt; saturated. Sample HS4-PES-10B collected at 7 to 7.8 feet below grade. Air rotary to 9 feet. Encounter stiff resistance. (Possible boulder).	7'-9' B.C. REC: 0.8' O.V.M.
8			
8.5			
9			
9.5	SW	Greenish Gray (-) m-f SAND, little (+) c-m (+) -f Gravel (subrounded), little Clayey Silt; saturated. Sample HS4-PES-10C collected at 9.5 to 10 feet below grade.	9'-11' B.C. REC: 1.4 O.V.M.
10			

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: HOT SPOT 4 Delineation

Boring No: HS4-PES-10 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Rotary / Split Spoon Sampler.

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
10	SW	Greenish Gray c-m-f (-) SAND, little (+) m-f Gravel (subrounded) little silt, saturated.	11-13' B.C. REC: 0.4 OUM
10.5			
11			
11.5			
12			
12.5	SP	Greenish Gray c-m SAND, little (+) m-f Gravel (subrounded) little (-) silt	13' + 15' B.C. REC: 1' OUM
13			
13.5			
14			
14.5			
15			

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: HOT SPOT B

Boring No: SB-1 Work Assignment No: _____

Sample No: SB-1-A (0-0.5) Time: 1420 (5-15-96)

Sample No: SB-1-B (3-3.5) Time: 1425 (5-15-96)

Sample No: SB-1-C (4.5-5.0) Time: 1425 (5-15-96)

Equipment: Air rotary, Split Spoon Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SM (FILL)	Brown silty SAND, little Gravel; dry. Roots and ash-like material present. Sample SB-1-A collected at 0 to 0.5 feet.	0-2' B.C. REC: 1' OVM: 0 units
.5			
1			
1.5			
2.0			
2.5	SM (FILL)	Air rotary to 3 feet. Drilling resistance encountered.	3'-5' B.C. REC: 2' OVM: 0 units
3			
3.5			
4			
4.5			
5			

BORING LOG

ROY F. WESTON, INC.

Client: LE. Carpenter Site: Hot Spot B

Boring No: SB-2 Work Assignment No: _____

Sample No: SB-2-A (0-0.5) Time: 1355 (5-15-96)

Sample No: SB-2-B (2-2.5) Time: 1405 (5-15-96)

Sample No: SB-2-C (4-4.5) Time: 1410 (5-15-96)

Equipment: Air rotary, Split Spoon Samplers

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SM (FILL)	Brown c-m SAND, some silt, little Gravel (angular); dry. Pieces of wood are present. Sample SB-2-A collected at 0 to 0.5 feet below grade.	0-2' B.C.: OUM: 0 units REC: 2'
0.5			
1			
1.5			
2.0			
2.5	SM (FILL)	Brown a-m SAND, some silt, little Gravel (angular); moist. Pieces of ashlike material present. Sample SB-2-B collected at 2 to 2.5 feet below grade.	2'-3' B.C.: OUM: 0 units REC: 1'
3.0			
3.5	ML (FILL)	Dark Brown clayey SILT, some (r) m-f Sand; moist. Pieces of wood present. Sample SB-2-C collected at 4 to 4.5 feet below grade.	3'-5' B.C.: OUM: 0 units REC: 2'
4			
4.5			
5.0			

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: Hot Spot B

Boring No: SB-3 Work Assignment No: _____

Sample No: SB-3-A (0 to 0.5) Time: 1305 (5-15-96)

Sample No: SB-3-B (3 to 3.5) Time: 1307 (5-15-96)

Sample No: SB-3-C (4 to 4.5) Time: 1307 (5-15-96)

Equipment: Air Rotary / Split Spore Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SM (FILL)	Brown c-m SAND, some Silt, little Gravel; dry, roots present. Sample SB-3-A collected at 0 to 0.5 feet below grade. Air rotary to 2 feet.	0-2' B.C. OVM: 0 units REC: 1'
0.5			
1			
1.5			
2			
2.5			
3	SM (FILL)	Brown c-m-f(+) SAND, some clayey silt, little f. Gravel; moist, brick present. Sample SB-3-B collected at 3 to 3.5 feet below grade. Sample SB-3-C collected at 4 to 4.5 feet below grade.	3'-5' B.C. OVM: 0 units. REC: 1.5'
3.5			
4			
4.5			
5			

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: NOZ GAT B

Boring No: SB-4 Work Assignment No: _____

Sample No: SB-4-A (0 to 0.5) Time: 1245 (5-15-96)

Sample No: SB-4-B (2 to 2.5) Time: 1253 (5-15-96)

Sample No: SB-4-C (4 to 4.5) Time: 1255 (5-15-96)

Equipment: Air rotary, split spoon sample

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SP (FILL)	Brown c-m SAND, little (+) Clayey Silt, trace f. Gravel (angular); roots present, dry. Sample SB-4-A collected 0 to 0.5 feet below grade. Air Rotary to 2'.	0-1'
0.5			B.C.
1			O.V.M.
1.5			REC: 1'
2.0			
2.5	SP (FILL)	Dark Brown c-m SAND, little (+) Clayey Silt, little f. Gravel; pieces of brick and ash-like material present. Sample SB-4-B collected at 2.0 to 2.5 feet below Grade.	2'-3.5'
3.0			B.C.
3.5			O.V.M.: 0 units
4.0			REC: 1'
4.5	ML	Yel Br Clayey SILT, little m-f Sand, trace f. Gravel. Sample SB-4-C collected at 4 to 4.5 feet below grade.	4'-6'
5.0			B.C.
5.5			O.V.M.: 0 units
6.0			REC: 0.6'

6.0

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: HOT SPOT B

Boring No: SB-5 Work Assignment No: _____

Sample No: SB-SA (0.1-0.7) Time: 0956 (5-16-96)

Sample No: SB-SB - Duplicate (0.1-0.7) Time: 0956 (5-16-96)
SB-SC (2-2.4) 1030 (5-16-96)

Sample No: SB-SD (3-5.5) Time: 1034 (5-16-96)

Equipment: Air Rotary / Split Spoon Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SM (FILL)	0-0.1 Grass/roots.	0-2'
0.5		0.1- Dk Gray/Brown m-f SAND, some (-) silt, little m-f Gravel; moist. Sample SB-5-A and its duplicate SB-5-B collected from 0.1 to 0.7 feet below grade.	B.C: OUM: 0 units REC: 0.8'
1			
1.5			
2			
	SW (FILL)	Intermixed Gray/Black c-m (+) f SAND, little (+) m-f Gravel, (unrounded), little silt; dry. Sample SB-5-C collected from 2.0 to 2.4 feet below grade.	2'-4'
2.5			B.C: OUM: 0 units REC: 0.4'
3			
3.5			
4		Attempt spear: refusal.	
4.5		At rotary to 5 feet (Possible cobble).	
5			

BORING LOG
ROY F. WESTON, INC.

Client: L.E. Carpenter Site: Hot SAT B

Boring No: SB-5 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Return / split space Sample

[illegible]

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: HOT SPOT B

Boring No: SB-6 Work Assignment No: _____

Sample No: SB-6-A (0.5-1) Time: 0830 (5-16-96)

Sample No: SB-6-B (2-2.5) Time: 0835 (5-16-96)

Sample No: SB-6-C (4-4.3) Time: 0843 (5-16-96)

Equipment: Air Rotary, Split Spoon Samplers

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	Asphalt	0-0.5 Asphalt.	B.C.: 14-28-25-20
0.5	SP (FILL)	0.5 to 1.5 Dark Brown/Gray SAND, some Gravel. Sample SB-6-A collected 0.5 to 1 foot below grade.	DVM: 0 units REC: 4.25' 2
1		1.5 to 2: Reddish Brown Silty SAND, little Gravel; dry.	
1.5	SM (FILL)		
2	SP (FILL)	Yellow Brown SAND, little SILT, with pieces of concrete. Sample SB-6-B collected 2 to 2.5 feet below grade.	2'-4' B.C.: 16-22-19-27 DVM: 0 units REC: 0.5'
2.5			
3			
3.5			
4	SP (FILL)	Brown SAND, little Gravel, little Silt; dry. Sample SB-6-C collected 4 to 4.3' feet below grade.	4'-6' B.C.: 36-50/3" DVM: 0 units REC: 0.3'
4.5			
5			

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: Hot Spot B

Boring No: SB-7 Work Assignment No: _____

Sample No: SB-7-A (0.5-0.9) Time: ¹⁰⁵⁰0812 (5-16-96)

Sample No: SB-7-B (3.2-3.5) Time: 0810 (5-16-96)

Sample No: SB-7-C (3.2-3.5) Time: 0812 (5-16-96)

Equipment: Air Rotary, Split Spoon Samplers

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SW (FILL)	Air rotary to 0.5 feet. Dark Gray c-m(f)-f SAND, little Silt, some m-f Gravel (subangular); dry. Sample SB-7-A collected 0.5 to 0.9 feet below grade	0.5-2' OVM: 0 units REC: 0.4' B.C. 25-50/4"
0.5			
1			
1.5			
2			
2.5			
3.0	SP (FILL)	Dark Brown, SAND, some Gravel (angular), little silt. Sample SB-7-B collected 3.0' to 3.2 feet below grade. Sample SB-7-C collected at 3.2 to 3.5 feet below grade	3'-5' OVM: 0 units REC: 0.5' B.C.: 7-9-7-9
3.5			
4			
4.5			
5			

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: HOT SPOT B

Boring No: SB-8 Work Assignment No: _____

Sample No: SB-8-A (0-0.5) Time: 1017 (5-15-96)

Sample No: SB-8-B (2-2.5) Time: 1024 (5-15-96)

Sample No: SB-8-C (2-2.5) - Dup Time: 1024 (5-15-96)

Equipment: Air rotary / Split spoon samplers

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SW	Dark Gray / Black c-m-f SAND, little (+) m-f Gravel, little silt; damp. Sample SB-8-A collected 0 to 0.5 feet below grade.	Fill (0-2') B.C. OUM: 4 units REC: 0.5'
0.5			
1			
1.5			
2			
2.5	ML	Top 0.5': Red Br / Br Clayey SILT, little m-f Sand, little m-f Gravel; wet. Samples SB-8-B and its duplicate SB-8-C collected at 2 to 2.5 feet below grade. Bottom 0.3': Intermixed Br / Gray / Red Br m-f SAND, some (+) silt, little m-f Gravel (rounded); moist.	2'-4' B.C. OUM: 0 units REC: 0.8'
3	SM		
3.5			
4			
4.5			
5		Refusal, Move location one foot, Air rotary to 4 ft. then refusal. Move location, air rotary to 4 ft, then refusal. Advance hole to 7 ft, attempt spoon, hole cuts in at 4 ft.	

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: Hot Spot B

Boring No: SB-9 Work Assignment No: _____

Sample No: SB-9-A Time: 1124

Sample No: SB-9-B Time: 1136

Sample No: SB-9-C Time: 1210

Equipment: Air rotary, split Spoon Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0			
0.5	SM (FILL)	Sand w/ some silt; clay is encountered at 0.5'; brownish color; asphalt, roots ground and grass also present. SB-4-A collected at 0.0 - 0.5'.	0-2' B.C. - 10-15-16-50/11 REC: 1.2' OVM: 0 UNITS
1	SM (FILL)	clayey silt w/ some gravel → cobbles, cobbles, + boulders and in little sand; brown color, moist	2'-4' B.C. Rec OVM: 0 UNITS
1.5	SM	Drillers were unable to get a sample from 4.0'-4.5' due to cave in from above and boulders. Drillers now over and drill to 3' and drive 2" spoon. Drillers are again unable to get enough recovery.	4.0'-4.5' B.C. Recovery 8" OVM: 0 UNITS
2.0	SM (FILL)	Drillers were unable to get a sample from 4.0'-4.5' due to cave in from above and boulders. Drillers now over and drill to 3' and drive 2" spoon. Drillers are again unable to get enough recovery.	4.0'-4.5' B.C. Recovery 8" OVM: 0 UNITS
2.5	SM	Drillers were unable to get a sample from 4.0'-4.5' due to cave in from above and boulders. Drillers now over and drill to 3' and drive 2" spoon. Drillers are again unable to get enough recovery.	4.0'-4.5' B.C. Recovery 8" OVM: 0 UNITS
3.0	SM (FILL)	Drillers were unable to get a sample from 4.0'-4.5' due to cave in from above and boulders. Drillers now over and drill to 3' and drive 2" spoon. Drillers are again unable to get enough recovery.	4.0'-4.5' B.C. Recovery 8" OVM: 0 UNITS
3.5	SM	Drillers were unable to get a sample from 4.0'-4.5' due to cave in from above and boulders. Drillers now over and drill to 3' and drive 2" spoon. Drillers are again unable to get enough recovery.	4.0'-4.5' B.C. Recovery 8" OVM: 0 UNITS
4.0	SM (FILL)	Drillers were unable to get a sample from 4.0'-4.5' due to cave in from above and boulders. Drillers now over and drill to 3' and drive 2" spoon. Drillers are again unable to get enough recovery.	4.0'-4.5' B.C. Recovery 8" OVM: 0 UNITS
4.5	SM	Drillers were unable to get a sample from 4.0'-4.5' due to cave in from above and boulders. Drillers now over and drill to 3' and drive 2" spoon. Drillers are again unable to get enough recovery.	4.0'-4.5' B.C. Recovery 8" OVM: 0 UNITS
5.0	SM (FILL)	Drillers were unable to get a sample from 4.0'-4.5' due to cave in from above and boulders. Drillers now over and drill to 3' and drive 2" spoon. Drillers are again unable to get enough recovery.	4.0'-4.5' B.C. Recovery 8" OVM: 0 UNITS

Drillers move over a 1' and drive spoon from 4.0'-4.5'. Sample consisted of clayey silt at 4.0' brown, moist; gravel on bottom of spoon from 4.3' - 4.5'.

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: Hot Spot B

Boring No: SB-10 Work Assignment No: _____

Sample No: SB-10-A (0-0.5) Time: 1435 (5-15-96)

Sample No: SB-10-B (3-3.5) Time: 1445 (5-15-96)

Sample No: SB-10-C (4.5-5) Time: 1445 (5-15-96)

Equipment: Air rotary

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SM (FILL)	Brown SAND, some silt, little f. Gravel; dry. Pieces of concrete and ash material present. Sample SB-10-A collected at 0 to 0.5 feet below grade.	0-2' B.C. OVM: 0 units REC: 1'
0.5			
1			
1.5			
2			
2.5			
3			
3.5	SM (FILL)	Resistance encountered during air rotary drilling. Drill to 3 feet below grade. Top 1' Brown SAND, some silt, little Gravel; dry. Bottom Sample SB-10-B collected 3 to 3.5 feet below grade. Bottom 1' Yellow Brown Clayey SILT. Sample SB-10-C collected 4.5 to 5 feet below grade.	3'-5' B.C. REC: 2' OVM: 0 units
4			
4.5			
5			

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: HOT SPOT B

Boring No: SB-15 Work Assignment No: _____

Sample No: SB-15-A (0.6-1) Time: 1055 (5-16-96)

Sample No: SB-15-B (2.5-3) Time: 1105 (5-16-96)

Sample No: SB-15-C (4-4.5) Time: 1110 (5-16-96)

Equipment: Air Rotary / 3000 spin sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SP (FILL)	Brown SAND, some silt, trace clay, little concrete. Sample SB-15-A collected 0.6 to 1 foot below grade. (Beneath topsoil).	0-2'
0.5			B.C.
1			0.6 to 1 foot below grade
1.5			REC: 2
2			
2.5	SM (FILL)	2-2.5: GRAVEL. 2.5 SAND, some silt, clay. Sample SB-15-B collected 2.5 to 3 feet below grade	2-4'
3			B.C.
3.5			0.6 to 1 foot below grade
4	SM	Brown Silty SAND, little Gravel. Sample SB-15-C collected 4 to 4.5 ft below grade	4'-6'
4.5			B.C.
5			0.6 to 1 foot below grade

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: HOT SPOT B

Boring No: SB-16 Work Assignment No: _____

Sample No: SB-16-A (0.2-0.6) Time: 0917 (5-16-96)

Sample No: SB-16-B (3-3.5) Time: 0835 (5-16-96)

Sample No: SB-16-C (5-5.3) Time: 0936 (5-16-96)

Equipment: Air Rotary, Split Spoon Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SW (FILL)	0-0.2' TOP SOIL WITH ROOTS	0-2'
0.5		0.2-1.2' Dk Gray/Black c-m(+)-f SAND, little m-f Gravel (angular), little silt; dry. Pieces of brick are present. Sample SB-16-A collected at 0.2 to 0.6 feet below grade	B.C. NR OVM: 0 units REC: 1.2'
1			
1.5			
2			
2.5	GBL/ML	Encounter stiff drilling resistance. Air Rotary to 3 feet	
3			
3.5		Intermixed Dk Gray/Black/Yel Gr c-m(+)-f GRAVEL (angular), some (+) Clayey silt, little m-f Sand; moist. Sample SB-16-B collected from 3 to 3.5 feet below grade	3'-5' B.C. 18-29-33-64 OVM: 0 units Rec: 0.7 units
4			
4.5			
5			

BORING LOG
ROY F. WESTON, INC.

Client: L.E. Carpenter Site: _____

Boring No: SB-16 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Rotary / split Spoon Samplers

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
5	GP/ML	Intermixed Brown / Gray m-f GRAVEL, some clayey silt, little (t) f. Sand; moist Sample SB-16-C collected 5 to 5.3 feet below grade	B.C. $5-7\%$ 100/1.5' O.M.: 0.7 units REC: 0.3'
5.5			
6			
6.5			
7.0			



APPENDIX D-6

SOIL BORING LOGS - HOT SPOT C DELINEATION

BORING LOG

ROY F. WESTON, INC.

Client: L. E. Carpenter Site: Hor Spot C

Boring No: C-1 Work Assignment No: _____

Sample No: C-1-A (0-0.5) Time: 1050 (5-17-96)

Sample No: C-1-B (2.7-3.2) Time: 1117 (5-17-96)

Sample No: C-1-C (4-4.5) Time: 1125 (5-17-96)

Equipment: Air Rotary/Split Spoon Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SP (FILL)	Intermixed Yel Br/Brown/Gray c-m SAND, some m-f Gravel (subangular), little Silt, dry. Sample C-1-A collected at 0 to 0.5 feet	0'-2' B.C: REC: 1' OVM:
0.5			
1			
1.5			
2			
2	SP (FILL)	2-2.7: Concrete 2.7 → Intermixed Yel Br/Tan/Dk Br m-f(-) SAND, little m(-)-f Gravel (slag material) little (+) Silt. Sample C-1-B collected at 2.7 to 3.2 feet below grade.	2'-4' B.C: REC: 1.8' OVM: 0 units
2.5			
3			
3.5			
4			
4	GW (FILL) SP (FILL)	4-4.2: Blue Green c-m (+)-f GRAVEL (subangular) little c-m Sand, trace Silt. 4.2 → Dk Brown (+)-m SAND, some m-f Gravel (subangular) little Silt; moist. Sample C-1-C collected at 4 to 4.5 feet below grade.	4'-6' B.C: REC: 1' OVM: 4.8 units
4.5			
5			

C-1-C collected at 4 to 4.5 feet below grade.

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: Hot Spot C

Boring No: C-1 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Rotary

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
5	SP (FILL) CL	6-6.1': Dark Gray / Brown Olive Gray m-f SAND, little c-m-f Gravel (angular), little silt. 6.1' →: Greenish Gray CLAY & SILT, little c-m Sand, little m-f Gravel (subangular) wet.	6'-8' B.C. REC: 0.8 Q/M: 1.2
5.5			
6			
6.5			
7			
7.5			
8	ML SP	8'-8.6'- Intermixed (Mottled) Green / Gray / Greenish Gray clayey SILT, some (+) m-f (+) gravel, little (+) c-m Sand; wet. 8.6' →: Intermixed Greenish Gray / Gray m (+)-f SAND, little m (-)-f Gravel (angular), little silt; moist.	8'-9' B.C. REC: 0.8 Q/M: 79 units
8.5			
9			
9.5			
10			

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: HOT SPOT C

Boring No: C-2 Work Assignment No: _____

Sample No: C-2-A (0-0.5) Time: 0920 (5-15-96)

Sample No: C-2-B (2-2.5) Time: 1405 (5-15-96)

Sample No: C-2-C (4-4.5) Time: 1410 (5-15-96)

Equipment: Air rotary, split spoon sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SW (FILL)	Intermixed Gray / Brown c-m (+) f SAND, some (-) c-m Gravel, little silt; dry. Pieces of brick and concrete are present. Sample C-2-A collected at 0 to 0.5 feet below grade	0-2' B.C. REC: 14' OVM:
0.5			
1			
1.5			
2			
2.5	SW (FILL)	Dark Gray / Black c-m (+) - f SAND, little med Gravel (subrounded) little silt; dry. Sample C-2-B collected 2 to 2.5 feet below grade.	2'-4' B.C. REC: 1.8' OVM:
3			
3.5			
4			
4.5	SW (FILL) ML	4-4.2: Black c-m (+) - f SAND, little (+) m - f (+) Gravel (angular), little silt - 4.2 → Yel Br Clayey SILT, little (+) m - f (-) Sand, little (-) m - f (+) Gravel; moist. Sample C-2-C collected 4 to 4.5 feet below grade	4'-6' B.C. REC: 0.6' OVM:
5			

4 to 4.5 feet below grade

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: HOT SPOT C

Boring No: C-3 Work Assignment No: _____

Sample No: C-3-A (0-0.5) Time: 1305 (5-15-96)

Sample No: C-3-B (2.8-3.3) Time: 1307 (5-15-96)

Sample No: C-3-C (4.2-4.6) Time: 1307 (5-15-96)

Equipment: ASU rotary, split spoon sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SW (FILL)	Intermixed Dk Brown / Brown CC(-) m-f SAND, little (+) silt; little m-f (+) Gravel; moist. Pieces of concrete present. Sample C-3-A collected at 0 to 0.5 feet below grade.	0-2' B.C. REC: 1.1' OVM: 0 units
0.5			
1			
1.5			
2			
2.5	SM (FILL)	2-2.3: Brick 2.3-2.8: Concrete 2.8 → : Intermixed Dk Br / Gray / Black m-f SAND, little m-f Gravel (subangular) some (-) silt; moist. Pieces of brick present. Sample C-3-B collected 2.8 to 3.3 feet below grade.	2-4' B.C. REC: 1.3 feet OVM: 0 units
3			
3.5			
4	FILL CL	4-4.4: Brick / concrete 4.4 → : Intermixed Yel Br / Orange SILT + CLAY, little c-f Gravel; little m. sand; moist. Sample C-3-C collected at 4.2 to 4.6 feet below grade.	4'-6' B.C. REC: 0.6' OVM: 0 units
4.5			
5			

BORING LOG
ROY F. WESTON, INC.

Client: LE Carpenter Site: HOT SATC

Boring No: C-3 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air rotary / Split Spoon samples

[illegible]

BORING LOG

ROY F. WESTON, INC.

Client: L.F. Carpenter Site: HOT SPOT C

Boring No: C-5 Work Assignment No: _____

Sample No: C-5-A (0-0.5) Time: 1250 (5-17-96)

Sample No: C-5-B (2.2-2.5) Time: 1255 (5-17-96)

Sample No: C-5-C (2-2.5) Time: 1320 (5-17-96)

Equipment: Air rotary / split spoon sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SW (Fill)	Intermixed Br / Dk Gray C-m (+) - F SAND, some (-) m - f (+) Gravel, little silt, dry - Sample C-5-A collected at 0 to 0.5 feet below grade.	0-2' <u>B.C.</u> : o.v.m. 0 units <u>Rec.</u> : 1.5'
0.5			
1			
1.5			
2			
2	SP (Fill) CL/GP	Top 0.2' (2-2.2) Intermixed Dark Gray/ Brown / Black m-f (-) SAND, little (+) m-f Gravel (subangular), little silt; dry. 2.2 ^{3.7} Yet Brown / Orange	2'-4' <u>B.C.</u> : o.v.m. 25 units <u>Rec.</u> : 0.8'
2.5	ML	Brown SILT & CLAY and m-f Gravel (rounded), little m-f (+) Sand; moist. 2.7 → Dark Gray (Product stained) Clayey SILT, little m-f (-) F Sand. Sand C-5-B collected at 2.2 to 2.5 feet below grade.	
3		No recovery. Air rotary to 7 feet below grade	
3.5			
4			
4.5			4'-6' <u>B.C.</u> : o.v.m.: <u>Rec.</u> : 0'
5			

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: Hot spot C

Boring No: C-5 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air rotary / Split Spoon Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
<u>5</u>	SP	Intermixed Black / Greenish Gray c-m SAND, some m-f Gravel (angular), little silt; Saturated Sample, C-5-C collected 7 to 7.5 feet below grade.	7'-9' B.C. OUM: 12 units REC: 0.6 units
<u>5.5</u>			
<u>6</u>			
<u>6.5</u>			
<u>7</u>			
<u>7.5</u>			
<u>8</u>			
<u>8.5</u>			
<u>9</u>			

BORING LOG

ROY F. WESTON, INC.

Client: L.F. Carpenter Site: KOT SPOT C

Boring No: C-6 Work Assignment No: _____

Sample No: C-6-A (0-0.5) Time: 1335 (5-17-96)

Sample No: C-6-B (2-2.5) Time: 1330 (5-17-96)

Sample No: C-6-C (4-4.5) Time: 1345 (5-17-96)

Equipment: Air Rotary / Split Spun Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SP (FILL)	Intermixed Lt. Gray / Brown m-f SAND, little c-m Gravel (rounded), little silt; dry. Pieces of brick and cement present. Strong odor noted. Sample C-6-A collected at 0 to 0.5 feet below grade.	0-2' B.C. OVM: 25 units RSC: 1.2'
0.5			
1			
1.5			
2			
2.5	SM	Intermixed DK Gray / Br m-f SAND, some (-) silt, little c-m Gravel (subangular). Sample C-6-B collected at 2 to 2.5 feet below grade.	2'-4' B.C. OVM: 361 units RSC: 1.2
3			
3.5			
4	ML/OL	Intermixed Dark Gray / Brown Clayey SILT, trace mica, organics present, little f Gravel (rounded), little m-f Sand; moist. Sample C-6-C collected at 4 to 4.5 feet below grade.	4'-6' B.C. OVM: RSC:
4.5			
5			

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: Hot Spot C

Boring No: C-7 Work Assignment No: _____

Sample No: C-7-A (0-0.5) Time: 0820 (5-20-96)

Sample No: C-7-B (2-3) Time: 0825 (5-20-96)

Sample No: C-7-C (Dwd) (2-3) Time: 0825 (5-20-96)

Sample No: C-7-D (4-4.5) Time: 0830 (5-20-96)

Equipment: Air Rotary Split Spoon Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SP (FILL)	Dark Brown m-f SAND, some c-m-f Gravel (angular) little silt, trace roots; dry. Sample C-7-A collected at 0 to 0.5 feet below grade.	0-2' B.C. OVM: 0 REC: 2
0.5			
1			
1.5			
2			
2.5	SM (FILL)	2-2.3 Black m-f (+) SAND, some silt, trace m-f Gravel, (subangular). 2.3 to 3.3: Brown m-f (+) SAND, little silt, trace f. Gravel (rounded); dry. Sample C-7-B and its duplicate collected at C-7-C collected at 2 to 3 feet below grade.	2'-4' B.C. OVM: 0 units REC: 1.3'
3			
3.5			
4			
4.5			
5	SP (FILL)	Drk Brown / Black m-f (+) SAND, little clayey silt, little (+) f. Gravel; moist. Sample C-7-D at 4 to 4.5 feet below grade.	4'-6' B.C. OVM: 0 units REC: 0.6'

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: HOT SPOT

Boring No: C-B Work Assignment No: _____

Sample No: C-B-A (0-0.5) Time: 0950 (5-20-96)

Sample No: C-B-B (2-2.5) Time: 1005 (5-20-96)

Sample No: C-B-C (4-4.5) Time: 1008 (5-20-96)

Equipment: Air Rotary / Split Stem Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SM (FILL)	Intermixed Dk Brown / Gray m-f SAND, some silt, little m-f Gravel (subangular); dry. Pieces of brick present. Sample C-B-A collected 0 to 0.5 feet below grade.	0'-2' B.C. OVM: 0 units REC: 2'
0.5			
1			
1.5			
2			
2.5	SW (FILL)	Dk Brown c-m (s)-f SAND, little (s) silt, little f. Gravel (subangular); dry. Pieces of brick present. Sample C-B-B collected at 2 to 2.5 feet below grade.	2'-4' B.C. OVM: 0 units REC: 0.6 units
3			
3.5			
4	SW (FILL)	Brown c-m (s)-f SAND, little (s) silt, little m-f Gravel (subangular); pieces of brick. Sample C-B-C collected at 4 to 4.5 feet below grade.	4'-6' B.C. OVM: 0 units REC: 1.2
4.5			
5			

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: HOT SPOT

Boring No: C-9 Work Assignment No: _____

Sample No: C-9-A (0.2-0.6) Time: 0927 (5-20-96)

Sample No: C-9-B (2-2.5) Time: 0935 (5-20-96)

Sample No: C-9-C (4.5-5) Time: 0939 (5-20-96)

Equipment: Air Rotary / Split spoon sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SM (FILL)	Dark Brown c-m-f SAND, some silt, some c-m-f Gravel, moist Sample C-9-A collected at 0.2 to 0.6 feet below grade	0-2' B.C: OUM: 0 unit REC: 2'
0.5			
1			
1.5			
2			
2.5	SM (FILL)	Dr Brown c-m-f SAND, some silt, little m-f Gravel (subrounded) Sample C-9-B collected at 2 to 2.5 feet below grade.	2'-4' B.C: REC: 0.5' OUM: 0
3			
3.5			
4	SW (FILL)	Interspersed Brown/Black c-m-f SAND, little silt, little c-m-f Gravel (subangular); moist. Sample C-9-C collected at 4.5 to 5 feet below grade	4'-6' B.C: REC: 2' OUM: 0 unit
4.5			
5			

BORING LOG

ROY F. WESTON, INC.

Client: L.F. Carpenter Site: HOT SPOTC

Boring No: C-10 Work Assignment No: _____

Sample No: C-10-A (0-1') Time: 0855 (5-20-96)
C-10-B (0-1') - dup 0855 (5-20-96)

Sample No: C-10-C (3'-3.5') Time: 0905 (5-20-96)

Sample No: C-10-D (4'-4.5') Time: 0910 (5-20-96)

Equipment: Air Rotary / Split Spoon Samples

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SM (FILL)	Dark Brown / Black m-f(-) SAND, some (-) silt, little c-m-f Gravel; dry. Pieces of brick and concrete present. Sample C-10-A and it's duplicate C-10-B collected at 0-1 feet below grade.	0-2' B.C. REC: 1.8' OJM: 0 unit
0.5			
1			
1.5			
2			
2.5			
3			
3.5	SAND (FILL)	DK Brown c-m-f SAND, little silt, little (-) c-m-f Gravel; moist. Piece of brick present. Sample C-10-C collected 3 to 3.5 feet below grade. Sample C-10-D collected 4 to 4.5 feet below grade.	3'-5' B.C. REC: 2' OJM: 0 unit
4			
4.5			
5			

BORING LOG

ROY F. WESTON, INC.

Client: L.F. Carpenter Site: HOT SPOT C

Boring No: C-11 Work Assignment No: _____

Sample No: C-11-A (0-0.5) Time: 1345 (5-16-96)

Sample No: C-11-B (2-2.4) Time: 1352 (5-16-96)

Sample No: C-11-C (4-4.5) Time: 1355 (5-16-96)

Equipment: Air rotary, Split spoon sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SW (FILL)	Intermixed Brown / Gray / Dark Gray c-m(s) - f SAND, little (s) c-m-f Gravel (angular to rounded), little (s) SILT; dry. Samples C-11-A sample collected 0 to 0.5 feet below grade.	0-2' B.C. OUM: REC: 1.2'
0.5			
1			
1.5			
2			
2.5	SW (FILL)	Intermixed Dk Brown / Gray c-m-f(s) SAND, little c-m-f Gravel (subrounded to angular), little (s) SILT; dry. Sample C-11-B collected 2 to 2.4 feet below grade.	2'-4' B.C. OUM: REC: 0.4
3			
3.5			
4	GP (FILL) CL	4 to 4.1 Black m-f angular GRAVEL (angular), some (s) m-f Sand, little (s) SILT; moist. (Ash like material). Bottom 4.1 to 4.5. Yel Br SILT & CLAY, little (s) F. Sand, trace f. Gravel, moist. Sample C-11-C collected 4 to 4.5 feet below grade.	4'-6' B.C. OUM: 0 unit REC: 0.5'
4.5			
5			

collected 4 to 4.5 feet below grade

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: Hot Spots

Boring No: C-12 Work Assignment No: _____

Sample No: C-12-A (0.1 to 0.6) Time: 1415 (5-16-96)

Sample No: C-12-B (2 to 2.5) Time: 1425 (5-16-96)

Sample No: C-12-C (4 to 4.5) Time: 1430 (5-16-96)

Equipment: Air Rotary / Split Spoon Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	Topsoil SW (FILL)	Intermixed Lt Gray / DK Gray / Brown c-m (+) - f SAND, little (+) m - f Gravel (subangular), little (+) Silt; dry. Pieces of concrete and brick are present. Note: Top 0.1' is Topsoil. Sample C-12-A collected 0.1 to 0.6 feet below grade.	0-2' B.C. O.M.: REC: 0.5'
0.5			
1			
1.5			
2			
2	SW (FILL)	Intermixed Brown / Lt. Gray c-m (+) - f SAND, little (+) m - f Gravel (angular), trace (+) Silt; dry. Pieces of concrete & brick are present. Sample C-12-B collected at 2 to 2.5 feet below grade.	2'-4' B.C. O.M.: REC: 0.8'
2.5			
3			
3.5			
4			
4	GP (FILL)	Intermixed Gray / Brown m(-) f angular GRAVEL, some (+) c-m - f(-) Sand, little Silt; dry. Pieces of concrete and brick are present. Sample C-12-C collected at 4 to 4.5 feet below grade.	4'-6' B.C. O.M.: REC: 0.8'
4.5			
5			
5			
5			

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: HOT SPOT C

Boring No: C-13 Work Assignment No: _____

Sample No: C-13-A (0-0.5) Time: 1310 (5-16-96)

Sample No: C-13-B (4-4.5) Time: 1330 (5-16-96)

Sample No: _____ Time: _____

Equipment: Air rotary/ Split spoon Sample

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	SW (FILL)	Intermixed Dark Gray/Brown c-m(⁺)-f SAND, some c-m-f Gravel (subrounded), little (⁺) Silt moist. Pieces of brick and concrete present. Sample C-13-A collected 0 to 0.5 feet below grade	0-2' B.C. REC: 0.8 OVM: 0
0.5			
1			
1.5			
2			
2.5			
3			
3.5			
4			
4.5			
5	SW	Intermixed lt Gray/Brown c-m-f SAND, little m-f Gravel (subrounded), little (⁺) Silt; dry. Sample C-13-B collected 4 to 4.5 feet below grade	2-4' B.C. REC: 0 OVM:
			4-6' B.C. REC: 0.6 OVM: multifunction



APPENDIX D-7

SOIL BORING LOGS - PERCOLATION TESTS & TEST BORINGS

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: Percolation Test

Boring No: Perc #4 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Rotary-8" bit, 6" PVC Screen (3.0' in length)

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	FILL ↓	Intermixed Brown/Gray C(-)-m-f SAND, little (+) Silt, little (+) m-f Gravel (angular); damp, pieces of brick present. (FILL) Note: Bricks limited to top 1.4 of soil column.	
1			
2			
		Hole completed at 2.5 feet below grade. Lithology based on cuttings and sidewalls.	
3			
4			

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: Percolation Test

Boring No: Perc #5 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Rotary #8" bit, 6" PVC screen (2.0' in length)

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	FILL ↓	Dark Brown c-m-f(-) SAND, little (t) Silt, little m(-) - f Gravel (angular); damp, pieces of brick present, cobbles	
1			
2		- Hole completed at 1.9 feet below grade. - Lithology based on cuttings and sidewalls.	
3			
4			

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: Percolation Test

Boring No: Perc #6 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air rotary-8" bit, 6" PVC screen (5.4' in length)

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	FILL ↓	Intermixed Brown / Dark Brown c-m SAND, little f Gravel, little silt; dry, pieces of brick present. (FILL)	
1			
2			
3		Hole completed at 3.4 feet below grade. Lithology based on cuttings.	
4			

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: Percolation Test

Boring No: Perc #7 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Rotary - 8" bit, 6" PVC screen (2.1' in length)

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	FILL ↓	Dark Brown c-m-f(-) SAND, little m-f Gravel (rounded to subangular), little (+) Silt; dry. (FILL)	
1			
2			
3			
4			

- Hole completed at 1.8 feet
below grade

- Lithology based on cuttings.

BORING LOG

ROY F. WESTON, INC.

Client: LE Carpenter Site: Percolation Test

Boring No: Perc #8 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Rotary - 8" bit, 6" PVC Screen (3.9' in length)

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	FILL	Dark Brown c-m-f SAND, little m-f Gravel (subangular), little silt, trace organics. (FILL)	
1			
2			
3		Hole completed at 3.4 feet below grade Lithology based on cuttings and sidewall of borehole.	
4			

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: _____

Boring No: Perc 9 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air Rotary - 8" bit, 6" PVC screen (6.05' in length)

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0			
0.5		Cuttings consisted of brown C-M-F. sand, little m-f subangular gravel, trace silt, and trace gravel → large boulders present	
1.0			
1.5			
2.0			
2.5			
3.0			
3.5			
4.0			
4.5			
5.0			

BORING LOG

ROY F. WESTON, INC.

Client: L. E. Carpenter Site: _____

Boring No: Per 9 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: _____

[illegible]

BORING LOG

ROY F. WESTON, INC.

Client: L.F. Carpenter Site: Geology

Boring No: XB-1 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air rotary / Split Spoon Samplers

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
0	TOPSOIL ML -	Top 0.2: Top Soil Bottom 0.3: Intermixed Yel Br/Br Clayey SILT and m-f SAND, little m-f Gravel (subrounded), trace wood, trace mica.	0-2' B.C. OVM: 0 units REC: 0.5'
0.5			
1			
1.5			
2			
2.5	ML	Intermixed Yel Br/Br Clayey SILT and m-f SAND, little m-f Gravel (subrounded) trace wood, trace mica.	2-4' B.C. OVM: 0.1' REC: 0.0 units
3			
3.5			
4	ML	Brown Clayey SILT, some (s) m-f Sand, little c-m Gravel (subangular); no shell	4'-6' B.C. OVM: 0 units REC: 0.6'
4.5			
5			

BORING LOG

ROY F. WESTON, INC.

Client: L.E. Carpenter Site: Geology

Boring No: XB-1 Work Assignment No: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Sample No: _____ Time: _____

Equipment: Air rotary / Split Spoon Sampler

DEPTH (FT)	SOIL CLASSIFICATION	DESCRIPTION	REMARKS
5	SM	Brown m-f SAND, some Clayey Silt, little c-m-f Gravel (subrounded); wet.	6'-8' B.C. O.M.: 15 units R.C.: 1.1'
5.5			
6			
6.5			
7			
7.5			
8		Intermixed Olive Green / Gray Clayey SILT, some (t) m-f (t) Sand, little (t) cm Gravel (subangular); moist.	8'-10' B.C. O.M.: 150 units R.C.: 0.6'
8.5			
9			
9.5			
10			



APPENDIX E

MONITORING WELL CONSTRUCTION DETAILS

Borehole Location Data**Roy F. WESTON, Inc.****BOREHOLE ID : MW-12R**
BEGIN DATE : 05/07/96**PROJECT NAME: LECARPENTER**
END DATE : 05/07/96**LOGGER/COMPANY : HACKETT/BURNS****BOREHOLE COMPLETED IN (<O>verburden edrock) : O****TOTAL DEPTH : 17.00****DEPTH TO BEDROCK : 0.00****BOREHOLE DIAMETER #1: 0.66****INTERVAL: 0.00 ft. to 15.00 ft. BGS****METHOD : AIR ROTARY****FLUID : NOT APPLICABLE****BOREHOLE DIAMETER #2: 0.25****INTERVAL: 15.00 ft. to 17.00 ft. BGS****METHOD : SPLIT SPOON****FLUID : NOT APPLICABLE****BOREHOLE DIAMETER #3:****INTERVAL:****METHOD :****FLUID :****DRILLING COMPANY : SUMMIT DRILLING, INC.****DRILLER : CARMINE DECORSO****DRILL RIG TYPE : GUS PECH AIR RIG**

	ESTIMATED	SURVEYED
SURFACE		
ELEVATION :	0.000	
N. COORDINATE :	0.0000	
E. COORDINATE :	0.0000	

WELL PERMIT.....(Y)es (N)o: Y PERMIT # :**HOLE ABANDONED...(Y)es (N)o: N****WELL INSTALLED...(Y)es (N)o: Y****WELL CLUSTER.....(Y)es (N)o: N No. OF WELLS : 0****WELL NEST.....(Y)es (N)o: N No. OF WELLS : 0**

PUMPS INSTALLED..(Y)es (N)o: N	TYPE	DEPTH
	PURGE :	0.00
	SAMPLE :	0.00

BOREHOLE TESTING**BOREHOLE GEOPHYSICS.....(Y)es (N)o: N****SLUG TESTS.....(Y)es (N)o: N****PACKER TESTS.....(Y)es (N)o: N****PUMPING TESTS.....(Y)es (N)o: N****COMMENTS :**

This monitoring well is a replacement well for MW-12S, which was removed during the soil "hot spot" excavation.

Well Completion Summary

Roy F. WESTON, Inc.

CLIENT	LECARPENTER	DRILLING FIRM	SUMMIT DRILLING INC.
SITE NAME	LE CARPENTER	INSPECTOR	BURNS/HACKETT

WELL ID	MW-12R	WATER LEVELS
START DATE	05/07/96	7.54 FT (TOC) ON 05/15/96
COMPLETION DATE	05/07/96	

DEPTH	TC	ELEV.	DRILLING SUMMARY
2.55	TC	2.55	Driller DECORSO/AQUINO
0.00	GS	0.00	Drilling Fluid NOT APPLICABLE
			Well Type SINGLE CASED SCREENED

Protective Casing
4.00 inch

0.50 BN -0.50

1.80 SP -1.80

2.45 SC -2.45

14.45 BS -14.45

14.45 TD -14.45

WELL DESIGN CONSTRUCTION

Casing #1 Diameter: 4.00 inch Interval: 0.00 to 2.45 ft.
Type : PVC SCH 40

Stick Up Inner Casing: 2.55 ft. Protective Casing: 0.00 ft.

Casing Grout: CEMENT/BENT Interval: 0.00 to 0.50 ft.

Seal Type: BENTONITE Interval: 0.50 to 1.80 ft.

Sand Pack Type: #2 MORIE Interval: 1.80 to 15.00 ft.
Grain Size: Median Diameter:

Screen Diameter: 4.00 Interval: 2.45 to 14.45 ft.
Type : PVC Slots: 0.02 inches

Silt Trap Interval: 0.00 to 0.00 ft.

Backfill Type: Interval: 0.00 to 0.00 ft.

WELL DEVELOPMENT

Date: 05/15/95
Method: Pump & Surge/Overpump
Yield: 5 gpm Purged Volume: 200 gal

COMMENTS

TC = Top of Casing SP = Top Sand Pack
GS = Ground Surface SC = Top Screen
BN = Top Seal BS = Bottom Screen
TD = Total Depth

Additional Comments:
Product noted on discharge water. All development water containerized. A #00 Sand pack installed at 1.8 to 2.5 feet

NOTE: Well Diagram not to Scale

Elevations are feet above mean sea level

Borehole Location Data**Roy F. WESTON, Inc.****BOREHOLE ID : MW-26**
BEGIN DATE : 05/07/96**PROJECT NAME: LECARPENTER**
END DATE : 05/08/96**LOGGER/COMPANY : HACKETT/BURNS****BOREHOLE COMPLETED IN (<O>verburden edrock) : 0****TOTAL DEPTH : 14.00****DEPTH TO BEDROCK : 0.00**

BOREHOLE DIAMETER #1: 0.66
INTERVAL: 0.00 ft. to 12.00 ft. BGS
METHOD : AIR ROTARY **FLUID : NOT APPLICABLE**

BOREHOLE DIAMETER #2: 0.25
INTERVAL: 12.00 ft. to 14.00 ft. BGS
METHOD : SPLIT SPOON **FLUID : NOT APPLICABLE**

BOREHOLE DIAMETER #3:
INTERVAL:
METHOD : **FLUID :**

DRILLING COMPANY : SUMMIT DRILLING
DRILLER : CARMINE DECORSO/AQUINO
DRILL RIG TYPE : GUS PECH AIR RIG

	ESTIMATED	SURVEYED
SURFACE ELEVATION :	0.000	
N. COORDINATE :	0.0000	
E. COORDINATE :	0.0000	

WELL PERMIT.....(Y)es (N)o: Y **PERMIT # :****HOLE ABANDONED...(Y)es (N)o: N****WELL INSTALLED...(Y)es (N)o: Y****WELL CLUSTER.....(Y)es (N)o: N** **No. OF WELLS : 0****WELL NEST.....(Y)es (N)o: N** **No. OF WELLS : 0**

PUMPS INSTALLED..(Y)es (N)o: N	TYPE	DEPTH
PURGE :		0.00
SAMPLE :		0.00

BOREHOLE TESTING**BOREHOLE GEOPHYSICS.....(Y)es (N)o: N****SLUG TESTS.....(Y)es (N)o: N****PACKER TESTS.....(Y)es (N)o: N****PUMPING TESTS.....(Y)es (N)o: N****COMMENTS :**

Well Completion Summary

Roy F. WESTON, Inc.

CLIENT	LECARPENTER	DRILLING FIRM	SUMMIT DRILLING INC.
SITE NAME	LE CARPENTER	INSPECTOR	BURNS/HACKETT
WELL ID	MW-26	WATER LEVELS	
START DATE	05/08/96	7.62 FT (TOC) ON 05/14/96	
COMPLETION DATE	05/08/96		
		DRILLING SUMMARY Driller DECORSO/AQUINO Drilling Fluid NOT APPLICABLE Well Type SINGLE CASED SCREENED	
WELL DESIGN CONSTRUCTION Casing #1 Diameter: 4.00 inch Interval: 0.00 to 1.80 ft. Type : PVC SCH 40 Stick Up Inner Casing: 2.20 ft. Protective Casing: 0.00 ft. Casing Grout: CEMENT/BENT Interval: 0.00 to 0.50 ft. Seal Type: BENTONITE Interval: 0.50 to 1.50 ft. Sand Pack Type: #2 MORIE Interval: 1.50 to 13.00 ft. Grain Size: Median Diameter: Screen Diameter: 4.00 Interval: 1.80 to 11.80 ft. Type : PVC Slots: .02 inches Silt Trap Interval: 0.00 to 0.00 ft. Backfill Type: Interval: 0.00 to 0.00 ft.			
WELL DEVELOPMENT Date: 05/14/96 Method: Pump & Surge/Overpump Yield: 6 gpm Purged Volume: 200 gal			
COMMENTS TC = Top of Casing SP = Top Sand Pack GS = Ground Surface SC = Top Screen BN = Top Seal BS = Bottom Screen TD = Total Depth		= Grout = Seal = Sand Pack = Formation	
Additional Comments: A layer of #00 Morie sand installed from 1.5 to 1.8 feet below grade.			

NOTE: Well Diagram not to Scale

Elevations are feet above mean sea level

Borehole Location Data**Roy F. WESTON, Inc.****BOREHOLE ID : B-1-MW19**
BEGIN DATE : 05/10/96**PROJECT NAME: LECARPENTER**
END DATE : 05/10/96**LOGGER/COMPANY : BURNS/HACKETT****BOREHOLE COMPLETED IN (<O>verburden edrock) : O****TOTAL DEPTH : 15.00****DEPTH TO BEDROCK : 0.00****BOREHOLE DIAMETER #1: 0.50****INTERVAL: 0.00 ft. to 15.00 ft. BGS****METHOD : AIR ROTARY****FLUID : NOT APPLICABLE****BOREHOLE DIAMETER #2:****INTERVAL:****METHOD :****FLUID :****BOREHOLE DIAMETER #3:****INTERVAL:****METHOD :****FLUID :****DRILLING COMPANY : SUMMIT DRILLING, INC.****DRILLER : DECORSO****DRILL RIG TYPE : GUS PECH AIR RIG**

	ESTIMATED	SURVEYED
SURFACE		
ELEVATION :	0.000	

N. COORDINATE : 0.0000**E. COORDINATE : 0.0000****WELL PERMIT.....(Y)es (N)o: N PERMIT # :****HOLE ABANDONED...(Y)es (N)o: Y****WELL INSTALLED...(Y)es (N)o: Y****WELL CLUSTER.....(Y)es (N)o: N No. OF WELLS : 0****WELL NEST.....(Y)es (N)o: N No. OF WELLS : 0****PUMPS INSTALLED..(Y)es (N)o: N TYPE****DEPTH****PURGE :****0.00****SAMPLE :****0.00****BOREHOLE TESTING****BOREHOLE GEOPHYSICS.....(Y)es (N)o: N****SLUG TESTS.....(Y)es (N)o: N****PACKER TESTS.....(Y)es (N)o: N****PUMPING TESTS.....(Y)es (N)o: N****COMMENTS :****Temporary well installed for the collection of groundwater screening samples.**

Well Completion Summary

Roy F. WESTON, Inc.

CLIENT SITE NAME	LECARPENTER MW-19 DELINEATION	DRILLING FIRM INSPECTOR	SUMMIT DRILLING, INC. BURNS/HACKETT
WELL ID B-1-MW19		WATER LEVELS	
START DATE 05/10/96		9.85 FT (TOC) ON 05/10/96	
COMPLETION DATE 05/10/96			

	DEPTH	TC	ELEV.	DRILLING SUMMARY
	0.05		0.05	Driller DECORSO
				Drilling Fluid NOT APPLICABLE
				Well Type SINGLE CASSED SCREENED
2.00 inch	0.00	GS	0.00	
WELL DESIGN CONSTRUCTION				
Casing #1 Diameter: 2.00 inch Interval: 0.00 to 14.83 ft.				
Type : PVC SCH 40				
Stick Up Inner Casing: 0.05 ft. Protective Casing: 0.00 ft.				
Casing Grout: OTHER Interval: 0.00 to 0.00 ft.				
Seal Type: NONE Interval: 0.00 to 0.00 ft.				
Sand Pack Type: NONE Interval: 0.00 to 0.00 ft.				
Grain Size: Median Diameter:				
Screen Diameter: 2.00 Interval: 9.83 to 14.83 ft.				
Type : PVC Slots: 0.02 inches				
0.00	BN		0.00	Silt Trap Interval: 0.00 to 0.00 ft.
0.00	SP		0.00	Backfill Type: NATURAL Interval: 0.00 to 14.83 ft.
WELL DEVELOPMENT				
9.83	SC		-9.83	Date: / /
				Method:
				Yield: Purged Volume:
COMMENTS				
14.83	BS		-14.83	TC = Top of Casing SP = Top Sand Pack [Pattern] = Grout
				GS = Ground Surface SC = Top Screen [Pattern] = Seal
				BN = Top Seal BS = Bottom Screen [Pattern] = Sand Pack
14.83	TD		-14.83	TD = Total Depth [Pattern] = Formation
Additional Comments:				
Temporary well installed for the collection of groundwater screening samples.				

NOTE: Well Diagram not to Scale

Elevations are feet above mean sea level

Borehole Location Data**Roy F. WESTON, Inc.****BOREHOLE ID : B-2-MW19**
BEGIN DATE : 05/10/96**PROJECT NAME: LECARPENTER**
END DATE : 05/10/96**LOGGER/COMPANY : BURNS/HACKETT****BOREHOLE COMPLETED IN (<O>verburden edrock) : 0****TOTAL DEPTH : 15.00****DEPTH TO BEDROCK : 0.00****BOREHOLE DIAMETER #1: 0.50****INTERVAL: 0.00 ft. to 15.00 ft. BGS****METHOD : AIR ROTARY****FLUID : NOT APPLICABLE****BOREHOLE DIAMETER #2:****INTERVAL:****METHOD :****FLUID :****BOREHOLE DIAMETER #3:****INTERVAL:****METHOD :****FLUID :****DRILLING COMPANY : SUMMIT DRILLING, INC.****DRILLER : CARMINE DECORSO****DRILL RIG TYPE : GUS PECH AIR RIG**

	ESTIMATED	SURVEYED
SURFACE ELEVATION :	0.000	
N. COORDINATE :	0.0000	
E. COORDINATE :	0.0000	

WELL PERMIT.....(Y)es (N)o: N PERMIT # :**HOLE ABANDONED...(Y)es (N)o: Y****WELL INSTALLED...(Y)es (N)o: Y****WELL CLUSTER.....(Y)es (N)o: N No. OF WELLS : 0****WELL NEST.....(Y)es (N)o: N No. OF WELLS : 0****PUMPS INSTALLED..(Y)es (N)o: N TYPE****PURGE :****DEPTH****0.00****SAMPLE :****0.00****BOREHOLE TESTING****BOREHOLE GEOPHYSICS.....(Y)es (N)o: N****SLUG TESTS.....(Y)es (N)o: N****PACKER TESTS.....(Y)es (N)o: N****PUMPING TESTS.....(Y)es (N)o: N****COMMENTS :****Temporary well installed for the collection of groundwater screening samples.**

Well Completion Summary

Roy F. WESTON, Inc.

CLIENT	LECARPENTER	DRILLING FIRM	SUMMIT DRILLING INC.
SITE NAME	MW-19 DELINEATION	INSPECTOR	BURNS/HACKETT

WELL ID	B-2-MW19	WATER LEVELS
START DATE	05/10/96	9.56 FT (TOC) ON 05/10/96
COMPLETION DATE	05/10/96	

	DEPTH	TC	ELEV.	DRILLING SUMMARY
	0.20	TC	0.20	Driller DECORSO
				Drilling Fluid NOT APPLICABLE
	0.00	GS	0.00	Well Type SINGLE CASED SCREENED

	DEPTH	TC	ELEV.	WELL DESIGN CONSTRUCTION
				Casing #1 Diameter: 2.00 inch Interval: 0.00 to 10.00 ft. Type : PVC SCH 40
				Stick Up Inner Casing: 0.20 ft. Protective Casing: 0.00 ft.
				Casing Grout: OTHER Interval: 0.00 to 0.00 ft.
				Seal Type: NONE Interval: 0.00 to 0.00 ft.
				Sand Pack Type: NONE Interval: 0.00 to 0.00 ft.
				Grain Size: Median Diameter:
				Screen Diameter: 2.00 Interval: 10.00 to 15.00 ft.
				Type : PVC Slots: 0.02 inches
	0.00	BN	0.00	Silt Trap Interval: 0.00 to 0.00 ft.
	0.00	SP	0.00	Backfill Type: NATURAL Interval: 0.00 to 15.00 ft.

	DEPTH	TC	ELEV.	WELL DEVELOPMENT
	10.00	SC	-10.00	Date: / /
				Method:
				Yield: Purged Volume:

	DEPTH	TC	ELEV.	COMMENTS
	15.00	BS	-15.00	TC = Top of Casing SP = Top Sand Pack = Grout
				GS = Ground Surface SC = Top Screen = Seal
				BN = Top Seal BS = Bottom Screen = Sand Pack
	15.00	TD	-15.00	TD = Total Depth = Formation

Additional Comments:

Temporary well installed for the collection of groundwater screening samples.

NOTE: Well Diagram not to Scale

Elevations are feet above mean sea level

Borehole Location Data**Roy F. WESTON, Inc.****BOREHOLE ID : B-3-MW19**
BEGIN DATE : 05/10/96**PROJECT NAME: LECARPENTER**
END DATE : 05/10/96**LOGGER/COMPANY : BURNS/HACKETT****BOREHOLE COMPLETED IN (<O>verburden edrock) : 0****TOTAL DEPTH : 14.00****DEPTH TO BEDROCK : 0.00****BOREHOLE DIAMETER #1: 0.50****INTERVAL: 0.00 ft. to 14.00 ft. BGS****METHOD : AIR ROTARY****FLUID : NOT APPLICABLE****BOREHOLE DIAMETER #2:****INTERVAL:****METHOD :****FLUID :****BOREHOLE DIAMETER #3:****INTERVAL:****METHOD :****FLUID :****DRILLING COMPANY : SUMMIT DRILLING, INC.****DRILLER : DECORSO****DRILL RIG TYPE : GUS PECH AIR RIG**

	ESTIMATED	SURVEYED
SURFACE		
ELEVATION :	0.000	
N. COORDINATE :	0.0000	
E. COORDINATE :	0.0000	

WELL PERMIT.....(Y)es (N)o: N PERMIT # :**HOLE ABANDONED...(Y)es (N)o: Y****WELL INSTALLED...(Y)es (N)o: Y****WELL CLUSTER.....(Y)es (N)o: N No. OF WELLS : 0****WELL NEST.....(Y)es (N)o: N No. OF WELLS : 0****PUMPS INSTALLED..(Y)es (N)o: N TYPE****DEPTH****PURGE : 0.00****SAMPLE : 0.00****BOREHOLE TESTING****BOREHOLE GEOPHYSICS.....(Y)es (N)o: N****SLUG TESTS.....(Y)es (N)o: N****PACKER TESTS.....(Y)es (N)o: N****PUMPING TESTS.....(Y)es (N)o: N****COMMENTS :**

Temporary well installed for the collection of groundwater screening samples.

Roy F. WESTON, Inc.

Elevations are feet above mean sea level

Borehole Location Data**Roy F. WESTON, Inc.****BOREHOLE ID :** B-4-MW19
BEGIN DATE : 05/13/96**PROJECT NAME:** LECARPENTER
END DATE : 05/13/96**LOGGER/COMPANY :** BURNS/HACKETT**BOREHOLE COMPLETED IN** (<O>verburden edrock) : 0**TOTAL DEPTH :** 15.00**DEPTH TO BEDROCK :** 0.00**BOREHOLE DIAMETER #1:** 0.50
INTERVAL: 0.00 ft. to 15.00 ft. BGS
METHOD : AIR ROTARY **FLUID :** NOT APPLICABLE**BOREHOLE DIAMETER #2:**
INTERVAL:
METHOD : **FLUID :****BOREHOLE DIAMETER #3:**
INTERVAL:
METHOD : **FLUID :****DRILLING COMPANY :** SUMMIT DRILLING INC.
DRILLER : DECORSO
DRILL RIG TYPE : GUS PECH AIR RIG

	ESTIMATED	SURVEYED
SURFACE ELEVATION :	0.000	
N. COORDINATE :	0.0000	
E. COORDINATE :	0.0000	

WELL PERMIT.....(Y)es (N)o: N **PERMIT # :****HOLE ABANDONED...(Y)es (N)o: Y****WELL INSTALLED...(Y)es (N)o: Y****WELL CLUSTER.....(Y)es (N)o: N** **No. OF WELLS : 0****WELL NEST.....(Y)es (N)o: N** **No. OF WELLS : 0**

PUMPS INSTALLED..(Y)es (N)o: N	TYPE	DEPTH
	PURGE :	0.00
	SAMPLE :	0.00

BOREHOLE TESTING**BOREHOLE GEOPHYSICS.....(Y)es (N)o: N****SLUG TESTS.....(Y)es (N)o: N****PACKER TESTS.....(Y)es (N)o: N****PUMPING TESTS.....(Y)es (N)o: N****COMMENTS :**

Temporary well installed for the collection of groundwater screening samples.

Well Completion Summary

Roy F. WESTON, Inc.

CLIENT SITE NAME		LECARPENTER MW-19 DELINEATION		DRILLING FIRM INSPECTOR		SUMMIT DRILLING, INC. BURNS/HACKETT	
WELL ID		B-4-MW19		WATER LEVELS			
START DATE		05/13/96		8.80 FT (TOC) ON 05/13/96			
COMPLETION DATE		05/13/96					

	DEPTH	TC	ELEV.	DRILLING SUMMARY	
	0.36		0.36	Driller	CARMINE DECORSO
	0.00	GS	0.00	Drilling Fluid	NOT APPLICABLE
				Well Type	SINGLE CASED SCREENED
WELL DESIGN CONSTRUCTION					
Casing #1 Diameter: 2.00 inch Interval: 0.00 to 9.64 ft. Type : PVC SCH 20					
Stick Up Inner Casing: 0.36 ft. Protective Casing: 0.00 ft.					
Casing Grout: OTHER Interval: 0.00 to 0.00 ft.					
Seal Type: NONE Interval: 0.00 to 0.00 ft.					
Sand Pack Type: NONE Interval: 0.00 to 0.00 ft.					
Grain Size: Median Diameter:					
Screen Diameter: 2.00 Interval: 9.64 to 14.64 ft.					
Type : PVC Slots: 0.020 inches					
0.00	BN	0.00			
0.00	SP	0.00	Silt Trap Interval: 0.00 to 0.00 ft. Backfill Type: NATURAL Interval: 0.00 to 15.00 ft.		
WELL DEVELOPMENT					
9.64	SC	-9.64	Date: / / Method: Yield: Purged Volume:		
COMMENTS					
14.64	BS	-14.64	TC = Top of Casing SP = Top Sand Pack GS = Ground Surface SC = Top Screen BN = Top Seal BS = Bottom Screen TD = Total Depth		
14.64	TD	0.00	= Grout = Seal = Sand Pack = Formation		
Additional Comments: Temporary well installes for the collection of groundwater screening samples.					

NOTE: Well Diagram not to Scale

Elevations are feet above mean sea level

Borehole Location Data**Roy F. WESTON, Inc.****BOREHOLE ID :** B-5-MW19
BEGIN DATE : 05/13/96**PROJECT NAME:** LECARPENTER
END DATE : 05/13/96**LOGGER/COMPANY :** BURNS/HACKETT**BOREHOLE COMPLETED IN** (<O>verburden edrock) : 0**TOTAL DEPTH :** 14.00**DEPTH TO BEDROCK :** 0.00**BOREHOLE DIAMETER #1:** 0.50
INTERVAL: 0.00 ft. to 14.00 ft. BGS
METHOD : AIR ROTARY **FLUID :** NOT APPLICABLE**BOREHOLE DIAMETER #2:**
INTERVAL:
METHOD : **FLUID :****BOREHOLE DIAMETER #3:**
INTERVAL:
METHOD : **FLUID :****DRILLING COMPANY :** SUMMIT DRILLING INC.
DRILLER : DECORSO
DRILL RIG TYPE : GUS PECH AIR RIG

	ESTIMATED	SURVEYED
SURFACE ELEVATION :	0.000	
N. COORDINATE :	0.0000	
E. COORDINATE :	0.0000	

WELL PERMIT.....(Y)es (N)o: N **PERMIT # :****HOLE ABANDONED...(Y)es (N)o: Y****WELL INSTALLED...(Y)es (N)o: Y****WELL CLUSTER.....(Y)es (N)o: N** **No. OF WELLS : 0****WELL NEST.....(Y)es (N)o: N** **No. OF WELLS : 0**

PUMPS INSTALLED..(Y)es (N)o: N	TYPE	DEPTH
	PURGE :	0.00
	SAMPLE :	0.00

BOREHOLE TESTING**BOREHOLE GEOPHYSICS.....(Y)es (N)o: N****SLUG TESTS.....(Y)es (N)o: N****PACKER TESTS.....(Y)es (N)o: N****PUMPING TESTS.....(Y)es (N)o: N****COMMENTS :**

Temporary well installed for the collection of groundwater screening samples. Borehole collapse at approximately 9 feet below grade due to the presence of boulders.

Well Completion Summary

Roy F. WESTON, Inc.

CLIENT SITE NAME	LECARPENTER MW-19 DELINEATION	DRILLING FIRM INSPECTOR	SUMMIT DRILLING INC. BURNS/HACKETT
---------------------	----------------------------------	----------------------------	---------------------------------------

WELL ID	B-5-MW19	WATER LEVELS
START DATE	05/13/96	7.26 FT (TOC) ON 05/13/96
COMPLETION DATE	05/13/96	

	DEPTH	TC	ELEV.	DRILLING SUMMARY
	0.20		0.20	Driller DECORSO
	0.00	GS	0.00	Drilling Fluid NOT APPLICABLE
				Well Type SINGLE CASSED SCREENED

	WELL DESIGN CONSTRUCTION
	Casing #1 Diameter: 2.00 inch Interval: 0.00 to 3.85 ft. Type : PVC SCH 20
	Stick Up Inner Casing: 0.20 ft. Protective Casing: 0.00 ft.
	Casing Grout: OTHER Interval: 0.00 to 0.00 ft.
	Seal Type: NONE Interval: 0.00 to 0.00 ft.
	Sand Pack Type: NONE Interval: 0.00 to 0.00 ft.
	Grain Size: Median Diameter:
	Screen Diameter: 2.00 Interval: 3.85 to 8.85 ft.
	Type : PVC Slots: 0.02 inches
0.00 BN 0.00	Silt Trap Interval: 0.00 to 0.00 ft.
0.00 SP 0.00	Backfill Type: NATURAL Interval: 0.00 to 10.00 ft.

	WELL DEVELOPMENT
	Date: / /
	Method:
	Yield:
	Purged Volume:

	COMMENTS
TC = Top of Casing	SP = Top Sand Pack
GS = Ground Surface	SC = Top Screen
BN = Top Seal	BS = Bottom Screen
	TD = Total Depth

	Grout =
	Seal =
	Sand Pack =
	Formation =

Additional Comments:	Temporary well installed for the collection of groundwater screening samples.
----------------------	---

NOTE: Well Diagram not to Scale

Elevations are feet above mean sea level

Borehole Location Data**Roy F. WESTON, Inc.****BOREHOLE ID : B-6-MW19**
BEGIN DATE : 05/09/96**PROJECT NAME: LECARPENTER**
END DATE : 05/09/96**LOGGER/COMPANY : BURNS/HACKETT****BOREHOLE COMPLETED IN (<O>verburden edrock) : 0****TOTAL DEPTH : 13.00****DEPTH TO BEDROCK : 0.00****BOREHOLE DIAMETER #1: 0.50****INTERVAL: 0.00 ft. to 13.00 ft. BGS****METHOD : AIR ROTARY****FLUID : NOT APPLICABLE****BOREHOLE DIAMETER #2:****INTERVAL:****METHOD :****FLUID :****BOREHOLE DIAMETER #3:****INTERVAL:****METHOD :****FLUID :****DRILLING COMPANY : SUMMIT DRILLING, INC.****DRILLER : DECORSO****DRILL RIG TYPE : GUS PECH AIR RIG**

	ESTIMATED	SURVEYED
SURFACE		
ELEVATION :	0.000	

N. COORDINATE : 0.0000**E. COORDINATE : 0.0000****WELL PERMIT.....(Y)es (N)o: N PERMIT # :****HOLE ABANDONED...(Y)es (N)o: Y****WELL INSTALLED...(Y)es (N)o: Y****WELL CLUSTER.....(Y)es (N)o: N No. OF WELLS : 0****WELL NEST.....(Y)es (N)o: N No. OF WELLS : 0****PUMPS INSTALLED..(Y)es (N)o: N TYPE****DEPTH****PURGE : 0.00****SAMPLE : 0.00****BOREHOLE TESTING****BOREHOLE GEOPHYSICS.....(Y)es (N)o: N****SLUG TESTS.....(Y)es (N)o: N****PACKER TESTS.....(Y)es (N)o: N****PUMPING TESTS.....(Y)es (N)o: N****COMMENTS :****Temporary well installed for the collection of groundwater screening samples.**

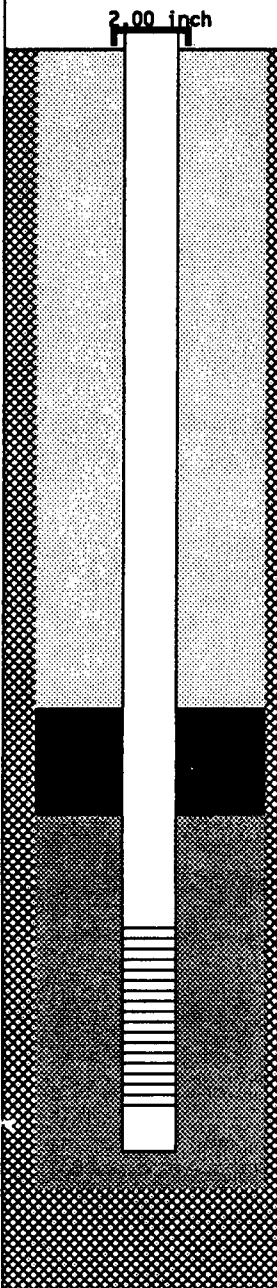
Well Completion Summary

Roy F. WESTON, Inc.

CLIENT	LECARPENTER	DRILLING FIRM	SUMMIT DRILLING, INC.
SITE NAME	MW-19 DELINEATION	INSPECTOR	BURNS/HACKETT

WELL ID	8-6-MW19	WATER LEVELS
START DATE	05/09/96	10.40 FT (TOC) ON 05/09/96
COMPLETION DATE	05/09/96	

	DEPTH	TC	ELEV.	DRILLING SUMMARY
	2.70		2.70	Driller DECORSO
				Drilling Fluid NOT APPLICABLE
				Well Type SINGLE CASED SCREENED

	DEPTH	TC	ELEV.	WELL DESIGN CONSTRUCTION
 2.00 inch	0.00	GS	0.00	
	0.00	BN	0.00	
	0.00	SP	0.00	
	5.30	SC	-5.30	
	10.30	BS	-10.30	
	10.30	TD	0.00	

WELL DEVELOPMENT	
Date: / /	
Method:	
Yield:	Purged Volume:

COMMENTS		
TC = Top of Casing	SP = Top Sand Pack	= Grout
GS = Ground Surface	SC = Top Screen	= Seal
BN = Top Seal	BS = Bottom Screen	= Sand Pack
	TD = Total Depth	= Formation

Additional Comments:

Temporary well installed for the collection of groundwater screening samples.

NOTE: Well Diagram not to Scale

Elevations are feet above mean sea level

Borehole Location Data**Roy F. WESTON, Inc.****BOREHOLE ID : B-7-MW19**
BEGIN DATE : 05/09/96**PROJECT NAME: LECARPENTER**
END DATE : 05/09/96**LOGGER/COMPANY : BURNS/HACKETT****BOREHOLE COMPLETED IN (<O>verburden edrock) : 0****TOTAL DEPTH : 12.00****DEPTH TO BEDROCK : 0.00****BOREHOLE DIAMETER #1: 0.50****INTERVAL: 0.00 ft. to 12.00 ft. BGS****METHOD : AIR ROTARY****FLUID : NOT APPLICABLE****BOREHOLE DIAMETER #2:****INTERVAL:****METHOD :****FLUID :****BOREHOLE DIAMETER #3:****INTERVAL:****METHOD :****FLUID :****DRILLING COMPANY : SUMMIT DRILLING INC.****DRILLER : DECORSO****DRILL RIG TYPE : GUS PECH AIR ROTARY**

	ESTIMATED	SURVEYED
SURFACE		
ELEVATION :	0.000	
N. COORDINATE :	0.0000	
E. COORDINATE :	0.0000	
WELL PERMIT.....(Y)es (N)o: N	PERMIT # :	
HOLE ABANDONED...(Y)es (N)o: Y		
WELL INSTALLED...(Y)es (N)o: Y		
WELL CLUSTER.....(Y)es (N)o: N	No. OF WELLS : 0	
WELL NEST.....(Y)es (N)o: N	No. OF WELLS : 0	
PUMPS INSTALLED..(Y)es (N)o: N	TYPE	DEPTH
	PURGE :	0.00
	SAMPLE :	0.00

BOREHOLE TESTING**BOREHOLE GEOPHYSICS.....(Y)es (N)o: N****SLUG TESTS.....(Y)es (N)o: N****PACKER TESTS.....(Y)es (N)o: N****PUMPING TESTS.....(Y)es (N)o: N****COMMENTS :**

Temporary well installed at location for the collection of groundwater screening sample.

Well Completion Summary

Roy F. WESTON, Inc.

CLIENT SITE NAME	LECARPENTER MW-19 DELINEATION	DRILLING FIRM INSPECTOR	SUMMIT DRILLING, INC. BURNS/HACKETT
WELL ID B-7-MW19		WATER LEVELS	
START DATE 05/09/96		10.66 FT (TOC) ON 05/09/96	
COMPLETION DATE 05/09/96			

	DEPTH	TC	ELEV.	DRILLING SUMMARY
	2.60		2.60	Driller DECORSO
				Drilling Fluid NOT APPLICABLE
				Well Type SINGLE CASED SCREENED
	0.00	GS	0.00	
WELL DESIGN CONSTRUCTION				
Casing #1 Diameter: 2.00 inch Interval: 0.00 to 4.40 ft.				
Type : PVC SCH 40				
Stick Up Inner Casing: 2.60 ft. Protective Casing: 0.00 ft.				
Casing Grout: Interval: 0.00 to 0.00 ft.				
Seal Type: NONE Interval: 0.00 to 0.00 ft.				
Sand Pack Type: NONE Interval: 0.00 to 0.00 ft.				
Grain Size: Median Diameter:				
Screen Diameter: 2.00 Interval: 4.40 to 9.40 ft.				
Type : PVC Slots: 0.2 inches				
0.00	BN		0.00	Silt Trap Interval: 0.00 to 0.00 ft.
0.00	SP		0.00	Backfill Type: NATURAL Interval: 0.00 to 12.00 ft.
WELL DEVELOPMENT				
4.40	SC		-4.40	Date: / /
				Method:
				Yield: Purged Volume:
COMMENTS				
TC = Top of Casing		SP = Top Sand Pack		= Grout
GS = Ground Surface		SC = Top Screen		= Seal
BN = Top Seal		BS = Bottom Screen		= Sand Pack
TD = Total Depth				= Formation
9.40	BS		-9.40	
9.40	TD		-12.00	
Additional Comments: Temporary well installed for the collection of groundwater screening samples.				

NOTE: Well Diagram not to Scale

Elevations are feet above mean sea level

Borehole Location Data**Roy F. WESTON, Inc.****BOREHOLE ID : B-8-MW19**
BEGIN DATE : 05/09/96**PROJECT NAME: LECARPENTER**
END DATE : 05/09/96**LOGGER/COMPANY : BURNS/HACKETT****BOREHOLE COMPLETED IN (<O>verburden edrock) : 0****TOTAL DEPTH : 6.00****DEPTH TO BEDROCK : 0.00****BOREHOLE DIAMETER #1: 0.50****INTERVAL: 0.00 ft. to 6.00 ft. BGS****METHOD : AIR ROTARY****FLUID : NOT APPLICABLE****BOREHOLE DIAMETER #2:****INTERVAL:****METHOD :****FLUID :****BOREHOLE DIAMETER #3:****INTERVAL:****METHOD :****FLUID :****DRILLING COMPANY : SUMMIT DRILLING INC.****DRILLER : DECORSO****DRILL RIG TYPE : GUS PECH AIR RIG**

	ESTIMATED	SURVEYED
SURFACE		
ELEVATION :	0.000	
N. COORDINATE :	0.0000	
E. COORDINATE :	0.0000	

WELL PERMIT.....(Y)es (N)o: N PERMIT # :**HOLE ABANDONED...(Y)es (N)o: Y****WELL INSTALLED...(Y)es (N)o: Y****WELL CLUSTER.....(Y)es (N)o: N No. OF WELLS : 0****WELL NEST.....(Y)es (N)o: N No. OF WELLS : 0****PUMPS INSTALLED..(Y)es (N)o: N TYPE**

PURGE :	DEPTH
	0.00
SAMPLE :	0.00

BOREHOLE TESTING**BOREHOLE GEOPHYSICS.....(Y)es (N)o: N****SLUG TESTS.....(Y)es (N)o: N****PACKER TESTS.....(Y)es (N)o: N****PUMPING TESTS.....(Y)es (N)o: N****COMMENTS :**

Temporary well installed at location for the collection of groundwater screening sample.

Well Completion Summary

Roy F. WESTON, Inc.

CLIENT	LECARPENTER	DRILLING FIRM	SUMMIT DRILLING INC.
SITE NAME	MW-19 DELINEATION	INSPECTOR	BURNS/HACKETT

WELL ID	B-8-MW19	WATER LEVELS	
START DATE	05/09/96	5.39 FT (TOC) ON 05/09/96	
COMPLETION DATE	05/09/96		

	DEPTH		ELEV.	
	1.23	TC	1.23	DRILLING SUMMARY
	0.00	GS	0.00	Driller: DECORSO Drilling Fluid: NOT APPLICABLE Well Type: SINGLE CASED SCREENED

				WELL DESIGN CONSTRUCTION
				Casing #1 Diameter: 2.00 inch Interval: 0.00 to 0.77 ft. Type : PVC SCH 40
				Stick Up Inner Casing: 1.23 ft. Protective Casing: 0.00 ft.
				Casing Grout: Interval: 0.00 to 0.00 ft.
				Seal Type: NONE Interval: 0.00 to 0.00 ft.
				Sand Pack Type: #2 MORIE Interval: 0.00 to 6.00 ft. Grain Size: UNIFORM Median Diameter:
				Screen Diameter: 2.00 Interval: 0.97 to 5.97 ft. Type : PVC Slots: .02 inches
0.00	BN	0.00		Silt Trap Interval: 0.00 to 0.00 ft. Backfill Type: Interval: 0.00 to 0.00 ft.
0.00	SP	0.00		
0.97	SC	-0.97		WELL DEVELOPMENT
				Date: / / Method: Yield: Purged Volume:
5.97	BS	-5.97		COMMENTS
				TC = Top of Casing SP = Top Sand Pack = Grout GS = Ground Surface SC = Top Screen = Seal BN = Top Seal BS = Bottom Screen = Sand Pack TD = Total Depth = Formation
5.97	TD	-5.97		Additional Comments: Temporary well installed for the collection of groundwater screening samples.

NOTE: Well Diagram not to Scale

Elevations are feet above mean sea level



APPENDIX F

GROUNDWATER ELEVATION/PRODUCT THICKNESS DATA

TABLE 1
WATER LEVEL/PRODUCT THICKNESS MEASUREMENT DATA
JUNE 13, 1996
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

MONITORING POINT DESIGNATION	MEASURING POINT ELEVATION (FT. MSL)	DEPTH TO PRODUCT (FT)	APPARENT PRODUCT THICKNESS (FT)	STATIC DEPTH TO WATER (FT)	CORRECTED DEPTH TO WATER (FT)	CORRECTED WATER LEVEL ELEVATION (FT MSL)
MW-1	639.18	ABANDONED	ABANDONED	ABANDONED	ABANDONED	ABANDONED
MW-1(R)	NOT SURVEYED	9.27	1.25	10.52	9.40	NOT SURVEYED
MW-2	633.57	ABANDONED	ABANDONED	ABANDONED	ABANDONED	ABANDONED
MW-2(R)	NOT SURVEYED	NONE	NONE	6.60	6.60	NOT SURVEYED
MW-3	632.56	6.73	0.61	7.34	6.78	625.78
MW-4	632.50	NONE	NONE	6.61	6.61	625.89
MW-5	632.42	NONE	NONE	6.20	6.20	626.22
MW-6	632.77	ABANDONED	ABANDONED	ABANDONED	ABANDONED	ABANDONED
MW-6(R)	NOT SURVEYED	SHEEN	SHEEN	6.60	6.60	NOT SURVEYED
MW-7	630.68	4.80	0.50	5.30	4.87	625.81
MW-8	630.56	NONE	NONE	4.82	4.82	625.74
MW-9	631.69	NONE	NONE	5.80	5.80	625.89
MW-10	631.52	SHEEN	SHEEN	7.86	7.86	623.66
MW-11S	632.98	7.38	1.58	8.96	7.49	625.47
MW-11I	632.82	NONE	NONE	7.05	7.05	625.77
MW-11D	632.42	NONE	NONE	3.93	3.93	628.49
MW-12S	633.18	ABANDONED	ABANDONED	ABANDONED	ABANDONED	ABANDONED
MW-12I	633.08	ABANDONED	ABANDONED	ABANDONED	ABANDONED	ABANDONED
MW-12R	NOT SURVEYED	NONE	NONE	8.51	8.51	NOT SURVEYED
MW-13S	631.23	NONE	NONE	5.38	5.38	625.85
MW-13(R)	NOT SURVEYED	NONE	NONE	5.14	5.14	NOT SURVEYED
MW-13I	630.68	NONE	NONE	5.12	5.12	625.54
MW-14S	628.41	NONE	NONE	3.40	3.40	625.01
MW-14I	628.23	NONE	NONE	2.86	2.86	625.37
MW-14D	628.53	NONE	NONE	ARTESIAN	ARTESIAN	ARTESIAN
MW-15S	636.77	NONE	NONE	10.72	10.72	626.05
MW-15I	636.66	NONE	NONE	10.60	10.60	626.06
MW-16S	634.47	NONE	NONE	8.03	8.03	626.44
MW-16I	634.98	NONE	NONE	8.34	8.34	626.62
MW-17S	634.79	NONE	NONE	8.48	8.48	626.31
MW-17D	634.88	NONE	NONE	7.45	7.45	627.41
MW-18S	631.26	NONE	NONE	5.67	5.67	625.59
MW-18I	631.04	NONE	NONE	5.17	5.17	625.87
MW-18D	630.77	NONE	NONE	2.98	2.98	627.81
MW-19	638.88	NONE	NONE	12.05	12.05	626.83
MW-20	636.77	NONE	NONE	8.78	8.78	627.99
MW-21	628.80	NONE	NONE	3.68	3.68	625.12
MW-22	628.74	CASING	IS	OBSTRUCTED	0.00	628.74
MW-23	630.64	NONE	NONE	3.37	3.37	627.27
MW-24	629.03	CASING	IS	OBSTRUCTED	0.00	629.03
MW-25	627.33	NONE	NONE	2.13	2.13	625.20
MW-26	NOT SURVEYED	NONE	NONE	7.65	7.65	NOT SURVEYED
RW-1	637.38	11.22	0.16	11.38	11.24	626.14
RW-2	631.68	6.2	0.01	6.21	6.20	625.48
RW-3	631.69	NONE	NONE	6.41	6.41	625.58
CW-1	NOT SURVEYED	8.50	0.01	8.51	8.50	NOT SURVEYED

TABLE 1
WATER LEVEL/PRODUCT THICKNESS MEASUREMENT DATA
JUNE 13, 1996
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

MONITORING POINT DESIGNATION	MEASURING POINT ELEVATION (FT. MSL)	DEPTH TO PRODUCT (FT)	APPARENT PRODUCT THICKNESS (FT)	STATIC DEPTH TO WATER (FT)	CORRECTED DEPTH TO WATER (FT)	CORRECTED WATER LEVEL ELEVATION (FT MSL)
CW-2	ABANDONED	ABANDONED	ABANDONED	ABANDONED	ABANDONED	NOT SURVEYED
CW-3	NOT SURVEYED	NONE	NONE	7.91	7.91	NOT SURVEYED
GEI-11	630.78	NONE	NONE	4.84	4.84	625.94
GEI-25	637.67	NONE	NONE	10.96	10.96	626.71
GEI-21	638.20	NONE	NONE	10.88	10.88	627.32
GEI-31	639.85	NONE	NONE	12.99	12.99	626.86
WP-A1	635.81	9.58	1.59	11.17	9.80	626.01
WP-A2	BENT CASING	CASING	IS	OBSTRUCTED	BENT CASING	BENT CASING
WP-A3	635.56	NONE	NONE	9.17	9.17	626.39
WP-A4	NO ACCESS	NO ACCESS	NO ACCESS	NO ACCESS	NO ACCESS	NO ACCESS
WP-A5	637.85	NONE	NONE	12.19	12.19	625.66
WP-A6	637.28	11.08	3.74	14.82	11.30	625.98
WP-A7	634.88	8.93	0.21	9.14	8.94	625.94
WP-A8	637.56	11.53	3.00	14.53	11.71	625.85
WP-A9	639.45	13.25	0.02	13.27	13.25	626.20
WP-B1	633.65	NONE	NONE	6.41	6.41	627.24
WP-B2	632.25	NONE	NONE	6.45	6.45	625.80
WP-B3	633.33	5.85	1.29	7.14	7.14	626.19
WP-B4	NEW STICKUP	6.67	1.82	8.49	6.83	NOT SURVEYED
WP-B5	632.11	NONE	NONE	6.56	6.56	625.55
WP-B6	631.86	NONE	NONE	6.04	6.04	625.82
WP-B7	629.49	4.25	0.28	4.53	4.29	625.20
WP-B8	629.29	NONE	NONE	3.91	3.91	625.38
WP-B9	ABANDONED	ABANDONED	ABANDONED	ABANDONED	ABANDONED	ABANDONED
WP-B10	NEW STICKUP	NONE	NONE	6.99	6.99	NOT SURVEYED
WP-C1	NEW STICKUP	NONE	NONE	7.22	7.22	NOT SURVEYED
WP-C2	634.46	NONE	NONE	8.21	8.21	626.25
WP-C3	632.64	NONE	NONE	7.37	7.37	625.27
WP-C4	NEW STICKUP	NONE	NONE	0.74	0.74	NOT SURVEYED
DC-P0	625.73	NONE	NONE	2.43	2.43	624.36
DC-P1	625.28	NO ACCESS	NO ACCESS	2.20	2.20	623.02
DC-P2	626.79	NONE	NONE	0.64	0.64	624.46
DC-P3	625.22	NONE	NONE	3.10	3.10	NO ACCESS
DC-P4	625.10	NONE	NONE	1.82	1.82	NO ACCESS
DC-P5	625.16	NO ACCESS	NO ACCESS	2.64	2.64	625.93
RP-01	629.65	NO ACCESS	NO ACCESS	2.55	2.55	NOT SURVEYED
RP-02	627.75	NONE	NONE			
RP-03	627.11	NONE	NONE			
RP-04	NOT SURVEYED	NONE	NONE			

NOTE:
WHERE SPECIFIC GRAVITY WAS NOT BE MEASURED, ASSUME A PRODUCT SPECIFIC GRAVITY OF 0.86.



APPENDIX G

MONITORING WELL SAMPLING DATA FORMS



MONITORING WELL SAMPLING DATA FORM

Well No.: MW-4 Date: 6/14/96 Time: 1245
Boring Diameter: 8" Well Casing Diameter: 2"
Annular Space Length: _____ Stickup: 3.64'

COLUMN OF WATER IN WELL

Casing Length (feet): 13.80
DTW Top of Casing (feet): 6.61
Column of Water in Well (feet): 7.19

VOLUME TO BE REMOVED

Gallons per foot of casing: 0.167
Column of water length (feet): 7.19
Volume of casing (gallons): 1.2
Number of volumes to be evacuated: x 5
Total volume to be evacuated (gallons): 6

Method of Purging (pump, bailer, etc.): Teflon Bailer

FIELD ANALYSIS

	Start	<u>x 3 gal.</u> Mid	<u>x 6 gal.</u> End
Time	<u>1245</u>	<u>1251</u>	<u>1256</u>
pH	<u>10.03</u>	<u>9.87</u>	<u>9.89</u>
Conductivity (mmHOS) mS/cm	<u>0.21</u>	<u>0.512</u>	<u>0.572</u>
Temperature (celsius)	<u>16.5</u>	<u>13.9</u>	<u>13.7</u>
PHATC	<u>9.97</u>	<u>9.85</u>	<u>9.82</u>
Total Volume Purged: <u>6</u> gallons	<u>0.62</u>	<u>0.49</u>	<u>0.65</u>

Sample Time: 1300 Sample No.: MW-4

Parameters: DEHP, BTEX

Comments: A sheen is noted on the water

Signed/Sampler: [Signature] Date: 07/01/96

Signed/Reviewer: _____ Date: _____

MONITORING WELL SAMPLING DATA FORM

Well No.: MW-14I Date: 06/14/96 Time: 1105

Boring Diameter: 4" Well Casing Diameter: 2"

Annular Space Length: _____ Stickup: 2.3' Steel

COLUMN OF WATER IN WELL

Casing Length (feet): 43.51
 DTW Top of Casing (feet): 2.86
 Column of Water in Well (feet): 40.65

VOLUME TO BE REMOVED

Gallons per foot of casing: 0.167
 Column of water length (feet): 40.65
 Volume of casing (gallons): 6.80
 Number of volumes to be evacuated: 5
 Total volume to be evacuated (gallons): 34

Method of Purging (pump, bailer, etc.): Bailer

FIELD ANALYSIS

	Start	x 13 gal. Mid	x 26 gal. End	x 36 gal.
Time	<u>1105</u>	<u>1117</u>	<u>1133</u>	<u>1143</u>
pH	<u>9.07</u>	<u>8.81</u>	<u>8.43</u>	<u>8.30</u>
Conductivity (<u>naHOS</u>) <u>mg/cm</u>	<u>.201</u>	<u>.135</u>	<u>.173</u>	<u>.203</u>
Temperature (celsius)	<u>13.5°C</u>	<u>13.5</u>	<u>13.4</u>	<u>13.3</u>
PHATE	<u>9.06</u>	<u>8.80</u>	<u>8.44</u>	<u>8.28</u>
Total Volume Purged: <u>36</u> gallons	<u>-0.51</u>	<u>-0.60</u>	<u>-0.66</u>	<u>-0.63</u>

Sample Time: 1143 Sample No.: MW-14I

Parameters: DEAP, BTEX

Comments: _____

Signed/Sampler: [Signature] Date: 07/01/96

Signed/Reviewer: _____ Date: _____



MONITORING WELL SAMPLING DATA FORM

Well No.: MW-155 Date: 6/14/96 Time: 0815Boring Diameter: ~6" Well Casing Diameter: 4"Annular Space Length: _____ Stickup: 1.94

COLUMN OF WATER IN WELL

Casing Length (feet): 19.51
DTW Top of Casing (feet): 10.72
Column of Water in Well (feet): 8.79

VOLUME TO BE REMOVED

Gallons per foot of casing: 0.65
Column of water length (feet): 8.79
Volume of casing (gallons): 5.7
Number of volumes to be evacuated: x5
Total volume to be evacuated (gallons): 29

Method of Purging (pump, bailer, etc.): Bailer

FIELD ANALYSIS

	Start	x10 gal. Mid	x20 gal. End	x30 gal.
Time	<u>0817</u>	<u>0832</u>	<u>0847</u>	<u>0859</u>
pH	<u>5.81</u>	<u>7.38</u>	<u>7.91</u>	<u>7.70</u>
Conductivity (<u>mmHOS</u>) <u>ms/cm</u>	<u>122</u>	<u>157</u>	<u>133</u>	<u>1078</u>
Temperature (celsius)	<u>13.3</u>	<u>12.6</u>	<u>12.6</u>	<u>12.5</u>
pHATC	<u>5.83</u>	<u>7.45</u>	<u>7.93</u>	<u>7.74</u>
Total Volume Purged: <u>30</u> <u>gallons</u>	<u>0.60</u>	<u>-0.18</u>	<u>-0.15</u>	<u>-0.47</u>

Sample Time: 0859 Sample No.: MW-155 + MW-30 (Duplicate)Parameters: DEHP, BTEX

Comments: Water is initially clear when bailing commenced.
Water has a cloudy color after 10 gallons is purged.
Water is slightly cloudy after 20 gallons

Signed/Sampler: [Signature] Date: 07/01/96

Signed/Reviewer: _____ Date: _____



MONITORING WELL SAMPLING DATA FORM

Well No.: MU-15 I Date: 12-6-96 Time: 0905Boring Diameter: ~ 6" Well Casing Diameter: 2"Annular Space Length: _____ Stickup: 1.92 Steel

COLUMN OF WATER IN WELL

Casing Length (feet): 39.55
DTW Top of Casing (feet): 10.60
Column of Water in Well (feet): 28.95

VOLUME TO BE REMOVED

Gallons per foot of casing: 0.167
Column of water length (feet): 28.95
Volume of casing (gallons): 4.8
Number of volumes to be evacuated: x 5
Total volume to be evacuated (gallons): 24

Method of Purging (pump, bailer, etc.): Bailer

FIELD ANALYSIS

	Start	x 10 Mid	x 20 End	x 25
Time	<u>0906</u>	<u>0917</u>	<u>0930</u>	<u>0937</u>
pH	<u>8.90</u>	<u>9.66</u>	<u>9.77</u>	<u>9.60</u>
Conductivity (mmHOS) <u>ms/cm</u>	<u>.188</u>	<u>.242</u>	<u>.229</u>	<u>.212</u>
Temperature (celsius)	<u>13.3</u>	<u>13.4</u>	<u>13.6</u>	<u>13.5</u>
pH ATC	<u>8.71</u>	<u>9.66</u>	<u>9.75</u>	<u>9.59</u>
Total Volume Purged: <u>25</u> <u>gallons</u>	<u>-291</u>	<u>-296</u>	<u>-195</u>	<u>-145</u>

Sample Time: 0943 Sample No.: MW-15 IParameters: DEHP, BTEX

Comments: _____

Signed/Sampler: [Signature] Date: 02/01/96

Signed/Reviewer: _____ Date: _____



MONITORING WELL SAMPLING DATA FORM

Well No.: MW-175 Date: 06/14/96 Time: 1335Boring Diameter: 8" Well Casing Diameter: 4"

Annular Space Length: _____ Stickup: _____

COLUMN OF WATER IN WELL

Casing Length (feet): 15.26
DTW Top of Casing (feet): 8.48
Column of Water in Well (feet): 6.78

VOLUME TO BE REMOVED

Gallons per foot of casing: 0.65
Column of water length (feet): 6.78
Volume of casing (gallons): 4.4
Number of volumes to be evacuated: 5
Total volume to be evacuated (gallons): 22

Method of Purging (pump, bailer, etc.): _____

FIELD ANALYSIS

	Start	Mid	End	
Time	<u>1335</u>	<u>1340</u>	<u>1348</u>	<u>1356</u>
pH	<u>7.81</u>	<u>7.17</u>	<u>6.90</u>	<u>6.77</u>
Conductivity (mmhos) <u>mc/cm</u>	<u>.208</u>	<u>.195</u>	<u>.206</u>	<u>.132</u>
Temperature (celsius)	<u>13.0</u>	<u>14.3</u>	<u>12.2</u>	<u>12.3</u>
pH ATC	<u>7.85</u>	<u>7.16</u>	<u>6.92</u>	<u>6.72</u>
<u>mv</u>	<u>-0.22</u>	<u>0.05</u>	<u>0.09</u>	<u>0.12</u>
Total Volume Purged: <u>22</u> gallons				

Sample Time: _____ Sample No.: MW-175Parameters: DEHP, BTEX

Comments: Water is turbid after bailing 8 gallons; Water is still
turbid after 15 gallons is bailed

Signed/Sampler: [Signature] Date: 07/01/96

Signed/Reviewer: _____ Date: _____



MONITORING WELL SAMPLING DATA FORM

Well No.: MW-22 Date: 6/14/96 Time: _____

Boring Diameter: 6" Well Casing Diameter: 2"

Annular Space Length: _____ Stickup: 2' Steel

COLUMN OF WATER IN WELL

Casing Length (feet): 13.04
DTW Top of Casing (feet): unable to measure
Column of Water in Well (feet): 13.04

VOLUME TO BE REMOVED

Gallons per foot of casing: 0.167
Column of water length (feet): 13
Volume of casing (gallons): 2.17
Number of volumes to be evacuated: 5
Total volume to be evacuated (gallons): 11

Method of Purging (pump, bailer, etc.): Well Wizard Pump

FIELD ANALYSIS

	Start	Mid	End
Time	_____	_____	_____
pH	_____	_____	_____
Conductivity (nmHOS)	_____	_____	_____
Temperature (celsius)	_____	_____	_____

Total Volume Purged: _____ gallons

Sample Time: _____ Sample No.: _____

Parameters: _____

Comments: MW-22 was unable to be sampled due to
the fact that the pump was stuck in the well.

Signed/Sampler: [Signature] Date: 07/01/96

Signed/Reviewer: _____ Date: _____



MONITORING WELL SAMPLING DATA FORM

Well No.: MW-25 Date: 6/14/96 Time: 1040Boring Diameter: ~6" Well Casing Diameter: 2"

Annular Space Length: _____ Stickup: _____

COLUMN OF WATER IN WELL

Casing Length (feet):	<u>12.00</u>
DTW Top of Casing (feet):	<u>2.13</u>
Column of Water in Well (feet):	<u>9.87</u>

VOLUME TO BE REMOVED

Gallons per foot of casing:	<u>0.167</u>
Column of water length (feet):	<u>9.87</u>
Volume of casing (gallons):	<u>1.6</u>
Number of volumes to be evacuated:	<u>x 5</u>
Total volume to be evacuated (gallons):	<u>8</u>

Method of Purging (pump, bailer, etc.): Well Wizard Pump

FIELD ANALYSIS

	<u>0 gallons</u>	<u>8 gallons</u>	
	Start	Mid	End
Time	<u>1045</u>	<u>1157</u>	_____
pH	<u>9.84</u>	<u>10.00</u>	_____
Conductivity (umhos) <u>ms/cm</u>	<u>.504</u>	<u>.007</u>	_____
Temperature (celsius)	<u>13.8</u>	<u>12.9</u>	_____
<u>PHATC</u>	<u>9.82</u>	<u>10.00</u>	_____
Total Volume Purged: <u>8</u> gallons			

Sample Time: 1200 Sample No.: MW-25Parameters: DEHP, BTEX

Comments: _____

Signed/Sampler:  Date: 07/01/96

Signed/Reviewer: _____ Date: _____

MONITORING WELL SAMPLING DATA FORM

Well No.: WP-A7 Date: 07/09/96 Time: 0900Boring Diameter: ≈ 6" Well Casing Diameter: 2"Annular Space Length: _____ Stickup: ≈ 2'

COLUMN OF WATER IN WELL

Casing Length (feet): 13.65
DTW Top of Casing (feet): (DTP - DTW) 9.60 - 11.48
Column of Water in Well (feet): 2.17

VOLUME TO BE REMOVED

Gallons per foot of casing: 0.167
Column of water length (feet): 2.17
Volume of casing (gallons): 0.36
Number of volumes to be evacuated: 5
Total volume to be evacuated (gallons): 1.8

Method of Purging (pump, bailer, etc.): Peristaltic Pump

FIELD ANALYSIS

	Start	Mid	End
Time	_____	_____	_____
pH	_____	_____	_____
Conductivity (nmHOS)	_____	_____	_____
Temperature (celsius)	_____	_____	_____

Total Volume Purged: 2 gallonsSample Time: 0935 Sample No.: WP-A7Parameters: Total & Dissolved Lead

Comments: Peristaltic pump used for the collection of "total"
and "dissolved" lead groundwater samples

Signed/Sampler: B. Brun Date: 7/9/96

Signed/Reviewer: _____ Date: _____



MONITORING WELL SAMPLING DATA FORM

Well No.: WP-49Date: 07/09/96Time: ~~12:45~~ 0802Boring Diameter: 6" Well Casing Diameter: 2"Annular Space Length: _____ Stickup: ± 2.5'

COLUMN OF WATER IN WELL

Casing Length (feet): 18.10
DTW Top of Casing (feet): (DTP-DTW) 14.07-14.30
Column of Water in Well (feet): 3.80

VOLUME TO BE REMOVED

Gallons per foot of casing: 0.167
Column of water length (feet): 3.80
Volume of casing (gallons): 0.63
Number of volumes to be evacuated: 5
Total volume to be evacuated (gallons): 2.5

Method of Purging (pump, bailer, etc.): Peristaltic Pump

FIELD ANALYSIS

	Start	Mid	End
Time	_____	_____	_____
pH	_____	_____	_____
Conductivity (nmHOS)	_____	_____	_____
Temperature (celsius)	_____	_____	_____

Total Volume Purged: 3.5 gallonsSample Time: 0850 Sample No.: WP-49Parameters: Total & Dissolved Lead

Comments: Peristaltic pump used for the collection of "total"
and "dissolved" lead groundwater samples

Signed/Sampler: B. Burns Date: 07/09/96

Signed/Reviewer: _____ Date: _____

MONITORING WELL SAMPLING DATA FORM

Well No.: MW-12R Date: 07/08/96 Time: 1333Boring Diameter: ~ 8" Well Casing Diameter: 4"Annular Space Length: _____ Stickup: ~ 3 feet

COLUMN OF WATER IN WELL

Casing Length (feet):	<u>16.69</u>
DTW Top of Casing (feet):	<u>9.43</u>
Column of Water in Well (feet):	<u>7.26</u>

VOLUME TO BE REMOVED

Gallons per foot of casing:	<u>0.65</u>
Column of water length (feet):	<u>7.26</u>
Volume of casing (gallons):	<u>4.72</u>
Number of volumes to be evacuated:	<u>5</u>
Total volume to be evacuated (gallons):	<u>23.6</u>

Method of Purging (pump, bailer, etc.): BAILER

FIELD ANALYSIS

	Start	Mid	End
Time	<u>INSTRUMENT</u>	<u>MALFUNCTIONS</u>	
pH	_____	_____	_____
Conductivity (nmHOS)	_____	_____	_____
Temperature (celsius)	_____	_____	_____

Total Volume Purged: 35 gallonsSample Time: 1414 Sample No.: MW-12R and MW-31Parameters: BTEX, DEHPComments: MW-31 is the duplicate sample of MW-12RSigned/Sampler: Bob Burr Date: 07/08/96

Signed/Reviewer: _____ Date: _____

MONITORING WELL SAMPLING DATA FORM

Well No.: MW-22 Date: 07/08/96 Time: 1130

Boring Diameter: 4 6" Well Casing Diameter: 2"

Annular Space Length: _____ Stickup: 2'

COLUMN OF WATER IN WELL

Casing Length (feet): 13.04
 DTW Top of Casing (feet): unable to measure due to bend in casing
 Column of Water in Well (feet): 13.04

VOLUME TO BE REMOVED

Gallons per foot of casing: 0.167
 Column of water length (feet): 13
 Volume of casing (gallons): 1.51
 Number of volumes to be evacuated: 5
 Total volume to be evacuated (gallons): 7.55

Method of Purging (pump, bailer, etc.): Peristaltic Pump

FIELD ANALYSIS

	0 gallons Start	7.5 gallons Mid	End
Time	<u>1146</u>	<u>1221</u>	
pH	<u>6.59</u>	<u>6.86</u>	
Conductivity ($\mu\text{mhos/cm}$)	<u>322</u>	<u>499</u>	
Temperature (celsius)	<u>18.2</u>	<u>14.7</u>	
millivolts	<u>-040</u>	<u>-058</u>	

Total Volume Purged: 7.6 gallons

Sample Time: 1225 Sample No.: MW-22

Parameters: BTEX, DEHP

Comments: MW-22 was sampled using a peristaltic pump
utilizing a well dedicated tubing.

Signed/Sampler: Re Bunn Date: 07/09/96

Signed/Reviewer: _____ Date: _____

MONITORING WELL SAMPLING DATA FORM

Well No.: MW-26 Date: 07/08/96 Time: 1030

Boring Diameter: 2 8" Well Casing Diameter: 4"

Annular Space Length: _____ Stickup: # 2.5 feet

COLUMN OF WATER IN WELL

Casing Length (feet): 14.30
 DTW Top of Casing (feet): 8.22
 Column of Water in Well (feet): 6.08

VOLUME TO BE REMOVED

Gallons per foot of casing: 0.65
 Column of water length (feet): 6.08
 Volume of casing (gallons): 3.95
 Number of volumes to be evacuated: 5
 Total volume to be evacuated (gallons): 20

Method of Purging (pump, bailer, etc.): BAILER

FIELD ANALYSIS

	0 gallons Start	5 gallons Mid	10 gallons End	15 gallons	20 gallons
Time	<u>1039</u>	<u>1043</u>	<u>1050</u>	<u>1101</u>	<u>1110</u>
pH	<u>6.39</u>	<u>6.55</u>	<u>6.71</u>	<u>6.66</u>	<u>6.74</u>
Conductivity (nmHOS) _{mv/cm}	<u>.492</u>	<u>.643</u>	<u>.555</u>	<u>.713</u>	<u>.799</u>
Temperature (celsius)	<u>18.2</u>	<u>16.6</u>	<u>16.6</u>	<u>17.2</u>	<u>16.4</u>
_{mv}	<u>-040</u>	<u>-081</u>	<u>-088</u>	<u>-095</u>	<u>-099</u>

Total Volume Purged: 22 20 gallons

Sample Time: 1115 Sample No.: MW-26

Parameters: BTEX, DEHP

Comments: _____

Signed/Sampler: R. Burns Date: 7/9/96

Signed/Reviewer: _____ Date: _____



APPENDIX H

GROUNDWATER DATA PACKAGE SUMMARY PAGES

Weston Environmental Metrics, Inc. (Gulf Coast)

METHOD 624 VOLATILES

Report Date: 05/17/96 14:39

RFW Batch Number: 9605L149

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 1a

Cust ID:		TB-01	FB-01S	FB-01W	BW-8	BW-7	BW-6
Sample RFW#:		005	006	007	010	011	012
Information Matrix:		WATER	WATER	WATER	WATER	WATER	WATER
D.F.:		1	1	1	1	1	1
Units:		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Surrogate	1,2-Dichloroethane-d4	108 %	107 %	105 %	108 %	109 %	105 %
Recovery	Toluene-d8	104 %	100 %	102 %	99 %	102 %	102 %
	4-Bromofluorobenzene	99 %	100 %	97 %	100 %	101 %	100 %
=====f=====f=====f=====f=====f=====f=====							
Chloromethane		5 U	5 U	5 U	5 U	5 U	5 U
Vinyl chloride		5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane		5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane		5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene		2 U	2 U	2 U	2 U	2 U	2 U
Acetone		5 U	5 U	5 U	12	30	5 U
Carbon Disulfide		5 U	5 U	5 U	5 U	5 U	5 U
Methylene Chloride		2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichloroethene (total)		5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone		5 U	5 U	5 U	5 U	5 U	5 U
Chloroform		5 U	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride		2 U	2 U	2 U	2 U	2 U	2 U
Benzene		1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane		2 U	2 U	2 U	2 U	2 U	2 U
Trichloroethene		1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane		1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane		1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone		5 U	5 U	5 U	5 U	5 U	5 U
Toluene		5 U	5 U	5 U	5 U	1 J	5 U
trans-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane		3 U	3 U	3 U	3 U	3 U	3 U
Tetrachloroethene		1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone		5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane		5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene		4 U	4 U	4 U	4 U	4 U	4 U
Ethylbenzene		5 U	5 U	5 U	5 U	5 U	5 U

* = Outside of EPA CLP QC Limits.

Cust ID:	TB-01	FB-01S	FB-01W	BW-8	BW-7	BW-6
----------	-------	--------	--------	------	------	------

RfW#:	005	006	007	010	011	012
-------	-----	-----	-----	-----	-----	-----

Styrene	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	4 U	4 U	4 U	4 U	4 U	4 U
1,1,2,2-Tetrachloroethane	2 U	2 U	2 U	2 U	2 U	2 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U	5 U

* = Outside of EPA CLP QC limits.

Weston Environmental Metrics, Inc. (Gulf Coast)

METHOD 624 VOLATILES

Report Date: 05/17/96 14:39

RFW Batch Number: 9605L149

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 2a

11

Cust ID: VBLKTN

VBLKTN BS

Sample
Information

RFW#:	96GVE161-MB1	96GVE161-MB1
Matrix:	WATER	WATER
D.F.:	1	1
Units:	UG/L	UG/L

Surrogate	1,2-Dichloroethane-d4	102	%	108	%
Recovery	Toluene-d8	99	%	103	%
	4-Bromofluorobenzene	104	%	102	%
=====f]=====f]=====f]=====f]=====f]=====f]					
Chloromethane		5	U	93	%
Vinyl chloride		5	U	94	%
Bromomethane		5	U	86	%
Chloroethane		5	U	106	%
1,1-Dichloroethene		2	U	112	%
Acetone		5	U	122	%
Carbon Disulfide		5	U	102	%
Methylene Chloride		2	U	108	%
1,2-Dichloroethene (total)		5	U	102	%
1,1-Dichloroethane		5	U	93	%
2-Butanone		5	U	108	%
Chloroform		5	U	92	%
1,1,1-Trichloroethane		5	U	100	%
Carbon Tetrachloride		2	U	96	%
Benzene		1	U	100	%
1,2-Dichloroethane		2	U	99	%
Trichloroethene		1	U	94	%
1,2-Dichloropropane		1	U	97	%
Bromodichloromethane		1	U	107	%
cis-1,3-Dichloropropene		5	U	117	%
4-Methyl-2-pentanone		5	U	120	%
Toluene		5	U	98	%
trans-1,3-Dichloropropene		5	U	121	%
1,1,2-Trichloroethane		3	U	93	%
Tetrachloroethene		1	U	94	%
2-Hexanone		5	U	114	%
Dibromochloromethane		5	U	106	%
Chlorobenzene		4	U	95	%
Ethylbenzene		5	U	98	%

*= Outside of EPA CLP QC Limits.

Cust ID: VBLKTN

VBLKTN BS

RfW#: 96GVE161-MB1 96GVE161-MB1

Styrene	5	U	97	%
Bromoform	4	U	93	%
1,1,2,2-Tetrachloroethane	2	U	98	%
Xylene (total)	5	U	96	%

*= Outside of EPA CLP QC Limits.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Friday May 17th, 1996

RE: TB-01

Project # 06720-020-002-0108

Lab ID: 9605L149-005

Sample Date: 05/09/96

Date Received: 05/10/96

Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest
internal standard were tentatively identified by mass
spectral library search. This is exclusive of any target
compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Friday May 17th, 1996

RE: FB-01S

Project # 06720-020-002-0108

Lab ID: 9605L149-006

Sample Date: 05/09/96

Date Received: 05/10/96

Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Friday May 17th, 1996

Attn: Ms. Tammy Edgington

RE: FB-01W
Project # 06720-020-002-0108
Lab ID: **9605L149-007**
Sample Date: 05/09/96
Date Received: 05/10/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Friday May 17th, 1996

RE: BW-8
Project # 06720-020-002-0108
Lab ID: 9605L149-010
Sample Date: 05/09/96
Date Received: 05/10/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Friday May 17th, 1996

RE: BW-7

Project # 06720-020-002-0108

Lab ID: 9605L149-011

Sample Date: 05/09/96

Date Received: 05/10/96

Units: ug/L

Tentatively Identified Compounds

2 Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Volatile Compound	Retention Time	Estimated Concentration
Unknown	16.803	2 J
HYDROCARBON C7H14	18.762	4 J



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Friday May 17th, 1996

RE: BW-6
Project # 06720-020-002-0108
Lab ID: 9605L149-012
Sample Date: 05/09/96
Date Received: 05/10/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Weston Environmental Metrics, Inc. (Gulf Coast)

METHOD 624 VOLATILES

Report Date: 05/20/96 08:58

RFW Batch Number: 9605L188

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 1a

Cust ID:		TB-02	FB-02S	FB-02W	BW-3	BW-2	BW-2
Sample RFW#:		002	003	004	010	011	011 DL
Information Matrix:		WATER	WATER	WATER	WATER	WATER	WATER
D.F.:		1	1	1	1	1000	2500
Units:		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Surrogate	1,2-Dichloroethane-d4	110 %	111 %	110 %	109 %	113 %	108 %
Recovery	Toluene-d8	101 %	101 %	104 %	105 %	103 %	99 %
	4-Bromofluorobenzene	99 %	100 %	100 %	99 %	102 %	99 %
===== f ===== f ===== f ===== f ===== f ===== f							
Chloromethane		5 U	5 U	5 U	5 U	5000 U	NA
Vinyl chloride		5 U	5 U	5 U	5 U	5000 U	NA
Bromomethane		5 U	5 U	5 U	5 U	5000 U	NA
Chloroethane		5 U	5 U	5 U	5 U	5000 U	NA
1,1-Dichloroethene		2 U	2 U	2 U	2 U	2000 U	NA
Acetone		5 U	5 U	5 U	5 U	5000 U	NA
Carbon Disulfide		5 U	5 U	5 U	5 U	5000 U	NA
Methylene Chloride		2 U	2 U	2 U	2 U	2000 U	NA
1,2-Dichloroethene (total)		5 U	5 U	5 U	5 U	5000 U	NA
1,1-Dichloroethane		5 U	5 U	5 U	5 U	5000 U	NA
2-Butanone		5 U	5 U	5 U	5 U	5000 U	NA
Chloroform		5 U	5 U	5 U	5 U	5000 U	NA
1,1,1-Trichloroethane		5 U	5 U	5 U	5 U	5000 U	NA
Carbon Tetrachloride		2 U	2 U	2 U	2 U	2000 U	NA
Benzene		1 U	1 U	1 U	1 U	1000 U	NA
1,2-Dichloroethane		2 U	2 U	2 U	2 U	2000 U	NA
Trichloroethene		1 U	1 U	1 U	1 U	1000 U	NA
1,2-Dichloropropane		1 U	1 U	1 U	1 U	1000 U	NA
Bromodichloromethane		1 U	1 U	1 U	1 U	1000 U	NA
cis-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5000 U	NA
4-Methyl-2-pentanone		5 U	5 U	5 U	5 U	5000 U	NA
Toluene		5 U	5 U	5 U	3 J	E	200000
trans-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5000 U	NA
1,1,2-Trichloroethane		3 U	3 U	3 U	3 U	3000 U	NA
Tetrachloroethene		1 U	1 U	1 U	1 U	1000 U	NA
2-Hexanone		5 U	5 U	5 U	5 U	5000 U	NA
Dibromochloromethane		5 U	5 U	5 U	5 U	5000 U	NA
Chlorobenzene		4 U	4 U	4 U	4 U	4000 U	NA
Ethylbenzene		5 U	5 U	5 U	5 U	7600	NA

* = Outside of EPA CLP QC Limits.

RfW Batch Number: 9605L188

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 1b

Cust ID:	TB-02	FB-02S	FB-02W	BW-3	BW-2	BW-2
RfW#:	002	003	004	010	011	011 DL

Styrene	5 U	5 U	5 U	5 U	5000 U	NA
Bromoform	4 U	4 U	4 U	4 U	4000 U	NA
1,1,2,2-Tetrachloroethane	2 U	2 U	2 U	2 U	2000 U	NA
Xylene (total)	5 U	5 U	5 U	5 U	41000	NA

*= Outside of EPA CLP QC Limits.

10

Weston Environmental Metrics, Inc. (Gulf Coast)

METHOD 624 VOLATILES

Report Date: 05/20/96 08:58

RFW Batch Number: 9605L188

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 2a

Cust ID:		BW-11	BW-1	VBLKTN	VBLKTN BS	VBLKUF	VBLKUF BS
Sample Information		012	013	96GVE161-MB1	96GVE161-MB1	96GVE162-MB1	96GVE162-MB1
Matrix:		WATER	WATER	WATER	WATER	WATER	WATER
D.F.:		1	1	1	1	1	1
Units:		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Surrogate	1,2-Dichloroethane-d4	109 %	109 %	102 %	108 %	113 %	109 %
Recovery	Toluene-d8	100 %	100 %	99 %	103 %	104 %	102 %
	4-Bromofluorobenzene	103 %	102 %	104 %	102 %	106 %	104 %
===== f]===== f]===== f]===== f]===== f]===== f]===== f]=====							
	Chloromethane	5 U	5 U	5 U	93 %	5 U	72 %
	Vinyl chloride	5 U	5 U	5 U	94 %	5 U	82 %
	Bromomethane	5 U	5 U	5 U	86 %	5 U	76 %
	Chloroethane	5 U	5 U	5 U	106 %	5 U	92 %
	1,1-Dichloroethene	2 U	2 U	2 U	112 %	2 U	100 %
	Acetone	5 U	5 U	5 U	122 %	10	72 %
	Carbon Disulfide	5 U	5 U	5 U	102 %	5 U	90 %
	Methylene Chloride	2 U	2 U	2 U	108 %	2 U	103 %
	1,2-Dichloroethene (total)	5 U	5 U	5 U	102 %	5 U	99 %
	1,1-Dichloroethane	5 U	5 U	5 U	93 %	5 U	94 %
	2-Butanone	5 U	5 U	5 U	108 %	5 U	101 %
	Chloroform	5 U	5 U	5 U	92 %	5 U	94 %
	1,1,1-Trichloroethane	5 U	5 U	5 U	100 %	5 U	104 %
	Carbon Tetrachloride	2 U	2 U	2 U	96 %	2 U	97 %
	Benzene	1 U	1 U	1 U	100 %	1 U	101 %
	1,2-Dichloroethane	2 U	2 U	2 U	99 %	2 U	105 %
	Trichloroethene	1 U	1 U	1 U	94 %	1 U	94 %
	1,2-Dichloropropane	1 U	1 U	1 U	97 %	1 U	96 %
	Bromodichloromethane	1 U	1 U	1 U	107 %	1 U	106 %
	cis-1,3-Dichloropropene	5 U	5 U	5 U	117 %	5 U	119 %
	4-Methyl-2-pentanone	5 U	5 U	5 U	120 %	5 U	113 %
	Toluene	5 U	5 U	5 U	98 %	5 U	102 %
	trans-1,3-Dichloropropene	5 U	5 U	5 U	121 %	5 U	131 %
	1,1,2-Trichloroethane	3 U	3 U	3 U	93 %	3 U	95 %
	Tetrachloroethene	1 U	1 U	1 U	94 %	1 U	96 %
	2-Hexanone	5 U	5 U	5 U	114 %	5 U	112 %
	Dibromochloromethane	5 U	5 U	5 U	106 %	5 U	109 %
	Chlorobenzene	4 U	4 U	4 U	95 %	4 U	100 %
	Ethylbenzene	5 U	5 U	5 U	98 %	5 U	104 %

*= Outside of EPA CLP QC Limits.

RfW Batch Number: 9605L188

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 2b

Cust ID:	BW-11	BW-1	VBLKTN	VBLKTN BS	VBLKUF	VBLKUF BS
RfW#:	012	013	96GVE161-MB1	96GVE161-MB1	96GVE162-MB1	96GVE162-MB1

Styrene	5	U	5	U	5	U	97	%	5	U	102	%
Bromoform	4	U	4	U	4	U	93	%	4	U	96	%
1,1,2,2-Tetrachloroethane	2	U	2	U	2	U	98	%	2	U	98	%
Xylene (total)	5	U	5	U	5	U	96	%	5	U	103	%

* = Outside of EPA CLP QC Limits.

21



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Monday May 20th, 1996

RE: TB-02

Project # 06720-020-002-0108

Lab ID: 9605L188-002

Sample Date: 05/10/96

Date Received: 05/13/96

Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Monday May 20th, 1996

RE: FB-02S
Project # 06720-020-002-0108
Lab ID: 9605L188-003
Sample Date: 05/10/96
Date Received: 05/13/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Monday May 20th, 1996

RE: **FB-02W**
Project # 06720-020-002-0108
Lab ID: **9605L188-004**
Sample Date: 05/10/96
Date Received: 05/13/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Monday May 20th, 1996

RE: BW-3
Project # 06720-020-002-0108
Lab ID: 9605L188-010
Sample Date: 05/10/96
Date Received: 05/13/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Monday May 20th, 1996

RE: BW-2
Project # 06720-020-002-0108
Lab ID: 9605L188-011
Sample Date: 05/10/96
Date Received: 05/13/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Monday May 20th, 1996

RE: BW-11
Project # 06720-020-002-0108
Lab ID: 9605L188-012
Sample Date: 05/10/96
Date Received: 05/13/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Monday May 20th, 1996

RE: BW-1

Project # 06720-020-002-0108

Lab ID: 9605L188-013

Sample Date: 05/10/96

Date Received: 05/13/96

Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Weston Environmental Metrics, Inc. (Gulf Coast)

METHOD 624 VOLATILES

Report Date: 05/20/96 15:13

RfW Batch Number: 9605L215

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 1a

Cust ID:		FB-03W	BW-4	BW-4	BW-9	BW-5	BW-5
Sample Information		RfW#: 007	008	008 DL	010	011	011 MS
Matrix:		WATER	WATER	WATER	WATER	WATER	WATER
D.F.:		1	1000	2500	1	1	1
Units:		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Surrogate	1,2-Dichloroethane-d4	111 %	112 %	112 %	112 %	106 %	108 %
Recovery	Toluene-d8	101 %	101 %	89 %	100 %	92 %	104 %
	4-Bromofluorobenzene	104 %	103 %	93 %	101 %	93 %	102 %
=====f]=====f]=====f]=====f]=====f]=====f]=====f]							
Chloromethane		5 U	5000 U	NA	5 U	5 U	78 %
Vinyl chloride		5 U	5000 U	NA	5 U	5 U	84 %
Bromomethane		5 U	5000 U	NA	5 U	5 U	80 %
Chloroethane		5 U	5000 U	NA	5 U	5 U	95 %
1,1-Dichloroethene		2 U	2000 U	NA	2 U	2 U	108 %
Acetone		5 U	10000 B	NA	9 B	24 B	53 %
Carbon Disulfide		5 U	5000 U	NA	5 U	5 U	87 %
Methylene Chloride		2	2000 U	NA	2 U	2 U	109 %
1,2-Dichloroethene (total)		5 U	5000 U	NA	5 U	5 U	108 %
1,1-Dichloroethane		5 U	5000 U	NA	5 U	5 U	87 %
2-Butanone		5 U	5000 U	NA	5 U	64	87 %
Chloroform		5 U	5000 U	NA	5 U	5 U	89 %
1,1,1-Trichloroethane		5 U	5000 U	NA	5 U	5 U	90 %
Carbon Tetrachloride		2 U	2000 U	NA	2 U	2 U	86 %
Benzene		1 U	1000 U	NA	1 U	1 U	97 %
1,2-Dichloroethane		2 U	2000 U	NA	2 U	2 U	98 %
Trichloroethene		1 U	1000 U	NA	1 U	1 U	85 %
1,2-Dichloropropane		1 U	1000 U	NA	1 U	1 U	94 %
Bromodichloromethane		1 U	1000 U	NA	1 U	1 U	107 %
cis-1,3-Dichloropropene		5 U	5000 U	NA	5 U	5 U	123 %
4-Methyl-2-pentanone		5 U	5000 U	NA	5 U	190	43* %
Toluene		5 U	E	200000	5 U	4 J	101 %
trans-1,3-Dichloropropene		5 U	5000 U	NA	5 U	5 U	124 %
1,1,2-Trichloroethane		3 U	3000 U	NA	3 U	3 U	106 %
Tetrachloroethene		1 U	1000 U	NA	1 U	1 U	89 %
2-Hexanone		5 U	5000 U	NA	5 U	5 U	96 %
Dibromochloromethane		5 U	5000 U	NA	5 U	5 U	131 %
Chlorobenzene		4 U	4000 U	NA	4 U	4 U	93 %
Ethylbenzene		5 U	7600	NA	5 U	5 U	87 %

*= Outside of EPA CLP QC Limits.

9/20/96

RFW Batch Number: 9605L215

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 1b

Cust ID: FB-03W BW-4 BW-4 BW-9 BW-5 BW-5

RFW#: 007 008 008 DL 010 011 011 MS

Styrene	5 U	5000 U	NA	5 U	5 U	90 %
Bromoform	4 U	4000 U	NA	4 U	4 U	102 %
1,1,2,2-Tetrachloroethane	2 U	2000 U	NA	2 U	2 U	100 %
Xylene (total)	5 U	38000	NA	5 U	1 J	94 %

*= Outside of EPA CLP QC Limits.

6009

Weston Environmental Metrics, Inc. (Gulf Coast)

METHOD 624 VOLATILES

Report Date: 05/20/96 15:13

RFW Batch Number: 9605L215

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 2a

Cust ID:		BW-5	FB-03S	TB5-13	VBLKUF	VBLKUF BS
Sample RFW#:		011 MSD	012	013	96GVE162-MB1	96GVE162-MB1
Information Matrix:		WATER	WATER	WATER	WATER	WATER
D.F.:		1	1	1	1	1
Units:		UG/L	UG/L	UG/L	UG/L	UG/L
Surrogate	1,2-Dichloroethane-d4	106 %	110 %	113 %	113 %	109 %
Recovery	Toluene-d8	102 %	101 %	101 %	104 %	102 %
	4-Bromofluorobenzene	103 %	105 %	100 %	106 %	104 %
=====f]		=====f]	=====f]	=====f]	=====f]	=====f]
	Chloromethane	66 %	5 U	5 U	5 U	72 %
	Vinyl chloride	71 %	5 U	5 U	5 U	82 %
	Bromomethane	70 %	5 U	5 U	5 U	76 %
	Chloroethane	82 %	5 U	5 U	5 U	92 %
	1,1-Dichloroethene	100 %	2 U	2 U	2 U	100 %
	Acetone	58 %	5 U	5 U	10	72 %
	Carbon Disulfide	82 %	5 U	5 U	5 U	90 %
	Methylene Chloride	101 %	3	2 U	2 U	103 %
	1,2-Dichloroethene (total)	98 %	5 U	5 U	5 U	99 %
	1,1-Dichloroethane	89 %	5 U	5 U	5 U	94 %
	2-Butanone	46* %	5 U	5 U	5 U	101 %
	Chloroform	90 %	5 U	5 U	5 U	94 %
	1,1,1-Trichloroethane	102 %	5 U	5 U	5 U	104 %
	Carbon Tetrachloride	95 %	2 U	2 U	2 U	97 %
	Benzene	91 %	1 U	1 U	1 U	101 %
	1,2-Dichloroethane	108 %	2 U	2 U	2 U	105 %
	Trichloroethene	88 %	1 U	1 U	1 U	94 %
	1,2-Dichloropropane	91 %	1 U	1 U	1 U	96 %
	Bromodichloromethane	104 %	1 U	1 U	1 U	106 %
	cis-1,3-Dichloropropene	113 %	5 U	5 U	5 U	119 %
	4-Methyl-2-pentanone	31* %	5 U	5 U	5 U	113 %
	Toluene	103 %	1 J	2 J	5 U	102 %
	trans-1,3-Dichloropropene	124 %	5 U	5 U	5 U	131 %
	1,1,2-Trichloroethane	95 %	3 U	3 U	3 U	95 %
	Tetrachloroethene	88 %	1 U	1 U	1 U	96 %
	2-Hexanone	112 %	5 U	5 U	5 U	112 %
	Dibromochloromethane	108 %	5 U	5 U	5 U	109 %
	Chlorobenzene	90 %	4 U	4 U	4 U	100 %
	Ethylbenzene	86 %	5 U	5 U	5 U	104 %

* = Outside of EPA CLP QC Limits.

010

9605L215

RfW Batch Number: 9605L215

Client: L.E. Carpenter

Work Order: 06720-020-002-0

Page: 2b

Cust ID:

BW-5

FB-03S

TB5-13

VBLKUF

VBLKUF BS

RfW#:

011 MSD

012

013

96GVE162-MB1

96GVE162-MB1

Styrene	83*	%	5	U	5	U	5	U	102	%
Bromoform	96	%	4	U	4	U	4	U	96	%
1,1,2,2-Tetrachloroethane	105	%	2	U	2	U	2	U	98	%
Xylene (total)	95	%	5	U	5	U	5	U	103	%

*= Outside of EPA CLP QC Limits.

011

8/5/96



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Tuesday May 21st, 1996

RE: FB-03W
Project # 06720-020-002-0108
Lab ID: 9605L215-007
Sample Date: 05/13/96
Date Received: 05/14/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Tuesday May 21st, 1996

RE: BW-4
Project # 06720-020-002-0108
Lab ID: 9605L215-008
Sample Date: 05/13/96
Date Received: 05/14/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Tuesday May 21st, 1996

Attn: Ms. Tammy Edgington

RE: **BW-9**
Project # 06720-020-002-0108
Lab ID: **9605L215-010**
Sample Date: 05/13/96
Date Received: 05/14/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Tuesday May 21st, 1996

Attn: Ms. Tammy Edgington

RE: BW-5
Project # 06720-020-002-0108
Lab ID: 9605L215-011
Sample Date: 05/13/96
Date Received: 05/14/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Date: Tuesday May 21st, 1996

Attn: Ms. Tammy Edgington

RE: FB-03S
Project # 06720-020-002-0108
Lab ID: 9605L215-012
Sample Date: 05/13/96
Date Received: 05/14/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.



To: L.E. Carpenter
Roy F. Weston Incorporated
208 Welsh Pool Road
Lionville, PA 19341-1225

Attn: Ms. Tammy Edgington

Date: Tuesday May 21st, 1996

RE: TB5-13
Project # 06720-020-002-0108
Lab ID: 9605L215-013
Sample Date: 05/13/96
Date Received: 05/14/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

ENVIROTECH RESEARCH, INC.

Client ID: FB-1
Site: L.E. Carpenter '96

Lab Sample No: 52731
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Analyzed: 06-18-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0425.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.10
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

ENVIROTECH RESEARCH, INC.

Client ID: FB-1
Site: L.E. Carpenter '96

Lab Sample No: 52731
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Extracted: 06-20-96
Date Analyzed: 06-26-96
GC Column: DB-5
Instrument ID: BNAMS3

Matrix: WATER
Level: LOW
Sample Volume: 840 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
Lab File ID: t5885.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	ND	1.4

ENVIROTECH RESEARCH, INC.

Client ID: MW-15I
Site: L.E. Carpenter '96

Lab Sample No: 52732
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Analyzed: 06-22-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0464.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.10
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

ENVIROTECH RESEARCH, INC.

Client ID: MW-15I
Site: L.E. Carpenter '96

Lab Sample No: 52732
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Extracted: 06-20-96
Date Analyzed: 06-26-96
GC Column: DB-5
Instrument ID: BNAMS3

Matrix: WATER
Level: LOW
Sample Volume: 970 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
Lab File ID: t5886.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	ND	1.2

ENVIROTECH RESEARCH, INC.

Client ID: MW-4
Site: L.E. Carpenter '96

Lab Sample No: 52733
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Analyzed: 06-22-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0465.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.10
Toluene	ND	0.14
Ethylbenzene	7.0	0.14
Xylene (Total)	7.8	0.50

ENVIROTECH RESEARCH, INC.

Client ID: MW-4
Site: L.E. Carpenter '96

Lab Sample No: 52733
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Extracted: 06-20-96
Date Analyzed: 06-28-96
GC Column: DB-5
Instrument ID: BNAMS3

Matrix: WATER
Level: LOW
Sample Volume: 950 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 100.0
Lab File ID: t5909.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	9300	120

ENVIROTECH RESEARCH, INC.

Client ID: MW-17S
Site: L.E. Carpenter '96

Lab Sample No: 52734
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Analyzed: 06-22-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0466.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	Method Detection
		<u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.10
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

ENVIROTECH RESEARCH, INC.

Client ID: MW-17S
Site: L.E. Carpenter '96

Lab Sample No: 52734
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Extracted: 06-20-96
Date Analyzed: 06-25-96
GC Column: DB-5
Instrument ID: BNAMS3

Matrix: WATER
Level: LOW
Sample Volume: 900 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
Lab File ID: t5881.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	ND	1.3

ENVIROTECH RESEARCH, INC.

Client ID: MW-3D
Site: L.E. Carpenter '96

Lab Sample No: 52735
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Analyzed: 06-22-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0467.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.10
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

ENVIROTECH RESEARCH, INC.

Client ID: MW-3D
Site: L.E. Carpenter '96

Lab Sample No: 52735
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Extracted: 06-20-96
Date Analyzed: 06-26-96
GC Column: DB-5
Instrument ID: BNAMS3

Matrix: WATER
Level: LOW
Sample Volume: 920 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
Lab File ID: t5888.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	ND	1.2

ENVIROTECH RESEARCH, INC.

Client ID: MW-15S
Site: L.E. Carpenter '96

Lab Sample No: 52736
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Analyzed: 06-22-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0468.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.10
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

ENVIROTECH RESEARCH, INC.

Client ID: MW-15S
Site: L.E. Carpenter '96

Lab Sample No: 52736
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Extracted: 06-20-96
Date Analyzed: 06-26-96
GC Column: DB-5
Instrument ID: BNAMS3

Matrix: WATER
Level: LOW
Sample Volume: 940 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
Lab File ID: t5889.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	ND	1.2

ENVIROTECH RESEARCH, INC.

Client ID: MW-25
Site: L.E. Carpenter '96

Lab Sample No: 52737
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Analyzed: 06-22-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0469.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.10
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

ENVIROTECH RESEARCH, INC.

Client ID: MW-25
Site: 14-6-96

Lab Sample No: 52737
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Extracted: 06-20-96
Date Analyzed: 06-26-96
GC Column: DB-5
Instrument ID: BNAMS3

Matrix: WATER
Level: LOW
Sample Volume: 950 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
Lab File ID: t5890.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	ND	1.2

ENVIROTECH RESEARCH, INC.

Client ID: MW-141
Site: L.E. Carpenter '96

Lab Sample No: 52738
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Analyzed: 06-23-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0473.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.10
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

ENVIROTECH RESEARCH, INC.

Client ID: MW-14I
Site: L.E. Carpenter '96

Lab Sample No: 52738
Lab Job No: N781

Date Sampled: 06-14-96
Date Received: 06-14-96
Date Extracted: 06-20-96
Date Analyzed: 06-26-96
GC Column: DB-5
Instrument ID: BNAMS3

Matrix: WATER
Level: LOW
Sample Volume: 870 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
Lab File ID: t5891.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	ND	1.3

ENVIROTECH RESEARCH, INC.

Client ID: Trip_Blank
Site: L.E. Carpenter '96

Lab Sample No: 52739
Lab Job No: N781

Date Sampled: 06-12-96
Date Received: 06-14-96
Date Analyzed: 06-18-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0424.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	Analytical Result <u>Units: ug/l</u>	Method Detection
		Limit <u>Units: ug/l</u>
Benzene	ND	0.10
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

ENVIROTECH RESEARCH, INC.

Client ID: MW-26
Site: L.E. Carpenter '96

Lab Sample No: 54859
Lab Job No: P101

Date Sampled: 07-08-96
Date Received: 07-08-96
Date Analyzed: 07-16-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0695.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 2.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.20
Toluene	ND	0.28
Ethylbenzene	0.86	0.28
Xylene (Total)	1.1	1.0

ENVIROTECH RESEARCH, INC.

Client ID: MW-26
Site: L.E. Carpenter '96

Lab Sample No: 54859
Lab Job No: P101

Date Sampled: 07-08-96
Date Received: 07-08-96
Date Extracted: 07-10-96
Date Analyzed: 07-23-96
GC Column: DB-5
Instrument ID: BNAMS2

Matrix: WATER
Level: LOW
Sample Volume: 820 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
Lab File ID: s5262.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	69	1.4

ENVIROTECH RESEARCH, INC.

Client ID: MW-22
Site: L.E. Carpenter '96

Lab Sample No: 54860
Lab Job No: P101

Date Sampled: 07-08-96
Date Received: 07-08-96
Date Analyzed: 07-16-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0696.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 20.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	2.0
Toluene	ND	2.8
Ethylbenzene	258	2.8
Xylene (Total)	941	10

ENVIROTECH RESEARCH, INC.

Client ID: MW-22
Site: L.E. Carpenter '96

Lab Sample No: 54860
Lab Job No: P101

Date Sampled: 07-08-96
Date Received: 07-08-96
Date Extracted: 07-10-96
Date Analyzed: 07-23-96
GC Column: DB-5
Instrument ID: BNAMS2

Matrix: WATER
Level: LOW
Sample Volume: 1000 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
Lab File ID: s5263.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	70	1.1

ENVIROTECH RESEARCH, INC.

Client ID: MW-31
Site: L.E. Carpenter '96

Lab Sample No: 54861
Lab Job No: P101

Date Sampled: 07-08-96
Date Received: 07-08-96
Date Analyzed: 07-13-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0672.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 100.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	10
Toluene	ND	14
Ethylbenzene	1130	14
Xylene (Total)	4610	50

ENVIROTECH RESEARCH, INC.

Client ID: MW-31
Site: L.E. Carpenter '96

Lab Sample No: 54861
Lab Job No: P101

Date Sampled: 07-08-96
Date Received: 07-08-96
Date Extracted: 07-10-96
Date Analyzed: 07-25-96
GC Column: DB-5
Instrument ID: BNAMS2

Matrix: WATER
Level: LOW
Sample Volume: 920 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 5.0
Lab File ID: s5307.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	490	6.2

ENVIROTECH RESEARCH, INC.

Client ID: MW-12R
Site: L.E. Carpenter '96

Lab Sample No: 54862
Lab Job No: P101

Date Sampled: 07-08-96
Date Received: 07-08-96
Date Analyzed: 07-16-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0697.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 100.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	10
Toluene	ND	14
Ethylbenzene	1040	14
Xylene (Total)	4150	50

ENVIROTECH RESEARCH, INC.

Client ID: MW-12R
Site: L.E. Carpenter '96

Lab Sample No: 54862
Lab Job No: P101

Date Sampled: 07-08-96
Date Received: 07-08-96
Date Extracted: 07-10-96
Date Analyzed: 07-25-96
GC Column: DB-5
Instrument ID: BNAMS2

Matrix: WATER
Level: LOW
Sample Volume: 980 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 5.0
Lab File ID: s5308.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	460	5.8

ENVIROTECH RESEARCH, INC.

Client ID: FB070896
Site: L.E. Carpenter '96

Lab Sample No: 54863
Lab Job No: P101

Date Sampled: 07-08-96
Date Received: 07-08-96
Date Analyzed: 07-15-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0683.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.10
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

ENVIROTECH RESEARCH, INC.

Client ID: FB070896
Site: L.E. Carpenter '96

Lab Sample No: 54863
Lab Job No: P101

Date Sampled: 07-08-96
Date Received: 07-08-96
Date Extracted: 07-10-96
Date Analyzed: 07-23-96
GC Column: DB-5
Instrument ID: BNAMS2

Matrix: WATER
Level: LOW
Sample Volume: 970 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
Lab File ID: s5266.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	ND	1.2

ENVIROTECH RESEARCH, INC.

Client ID: Trip_Blank
Site: L.E. Carpenter '96

Lab Sample No: 54864
Lab Job No: P101

Date Sampled: 07-08-96
Date Received: 07-08-96
Date Analyzed: 07-15-96
GC Column: DB624
Instrument ID: VOAGC3
Lab File ID: ipid0682.d

Matrix: WATER
Level: Low
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.10
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

1
INORGANIC ANALYSES DATA SHEET

WP-A7S

Lab Name: ROY F. WESTON INC. Contract: 6720
Lab Code: WESTON Case No.: SAS No.: SDG No.: WP-A7S
Matrix (soil/water): WATER Lab Sample ID: 9607L058-004
Level (low/med): LOW Date Received: 07/10/96
% Solids: 0.0

[illegible]

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN

0000013

1
INORGANIC ANALYSES DATA SHEET

WP-A7T

Date Received: 07/10/96

Solids: 0.0

[illegible]

Artifacts:

Comments: